

Royal Commission
on Canada's Economic Prospects

Canadian Economic Growth and Development from 1939 to 1955

by J. M. Smith

ROYAL COMMISSION ON CANADA'S ECONOMIC PROSPECTS

**CANADIAN ECONOMIC GROWTH AND DEVELOPMENT
FROM 1939 TO 1955**

by

J. M. SMITH

MAY, 1957

*While authorizing the publication of
this study, which has been prepared at
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INTRODUCTION

Nature of the Study

For Canada, and for the period under review, there is no doubt that there has been economic growth and that it has been rapid. The purposes of this study are to give some indication of the size or rate of this growth, to consider what the shape of the growth has been and to identify the factors which have operated as the causes, stimulants or determinants of the growth.¹

Before proceeding, it seems desirable to consider briefly the nature of economic growth and some of the problems and difficulties to which its measurement gives rise. As a matter of definition, economic growth means not only the expansion of facilities as such, but also development in the direction of greater diversification. These two parts must be defined further, for there are sources of confusion in each of them. To begin with, the sum of an economy's facilities — its true aggregate economic capacity — is not measurable at any given time. There have undoubtedly been times in the past 16 years when the Canadian economy was operating at its effective capacity: roughly, this point is reached when any further attempts to increase production result only in inflation. But this production ceiling is determined by the particular combination of capital, labour and material resources in use at the time and it is highly improbable, perhaps not possible, that this will be the optimum combination to maximize output. Given time, a reallocation of resources (as opposed to the addition of resources) would increase output. This process goes on continuously and is never completed. There is here the notion that decline and death caused by outmoding, inefficiency and obsolescence are also a part of growth but such adjustments are neither instantaneous nor perfect.

¹It would be presumptuous to imply by this brief and unqualified statement of objectives that the basic nature of economic growth will be explored or revealed. The meaning here intended of the term causes, stimulants or determinants of growth is best clarified by a simple analogy. In the study of plant growth, biochemists now perceive the basic process by which the separate causal factors synthesize to produce growth. But one can speak of the causes of plant growth at another level, in terms of such separate things as location, soil conditions, heat, light and water. It is in this latter sense that the term is used here.

Secondly, problems arise in the measurement of growth if, over time, resources are used differently or, what is much the same thing, are used to produce different things. It would be relatively simple, in practice, to identify growth if it occurred in the same things; if the goods and services did not change and we merely produced more of them. For a significant part of our economy this is, of course, precisely what has happened. For example, we have produced (and consumed) more meat, minerals, lumber and newsprint, and these things have not in their nature appreciably changed. But for another significant group of commodities—for example, automobiles, refrigerators, radios, machinery and equipment—there has been both a quantitative and a qualitative change and thus another dimension is added to growth. Moreover, we have added to the list of things which we produce and consume, such things as television sets, some chemicals and pharmaceuticals, electronic devices and plastics. In this respect our economy has become more diversified and we take this to be evidence of economic development. A decrease in working hours is another important aspect of development since it represents a preference for more leisure over the production of more goods and services. This, too, represents a change in the combination of resources in use.

Finally, since economic capacity cannot be determined, the measurement of growth must utilize comparisons of levels of output (or consumption) but it is apparent that output may change merely if the proportion of resources in use changes.² This imposes severe qualifications, for example, on the measurement of growth in terms of output between 1939, when there was considerable underemployment of factors, and 1944 when the factors were probably employed at above their maintainable capacity. So far as is possible, the attempt will be made to go beyond the measurement of output in order to determine the elements of growth or development. The term economic expansion will be used to denote over-all change, which may contain elements of both fluctuations in economic activity and of growth or development.

In the result, no single composite measure of the change in production or consumption over time will accurately and comprehensively measure the growth which has taken place. With respect to both growth and development, because of qualitative changes or improvements, the results are frequently not quantifiable. As the various dimensions of Canadian economic growth and development are discussed, these qualitative changes or improvements will be noted but main emphasis will be given to the quantifiable elements.

²Where growth is occurring, this problem decreases as the length of the period over which growth is measured increases—i.e. short-term variations in output will tend to become smaller in relation to the growth of the economy. Defects in the measurement of growth due to business fluctuations are also reduced by the use of trend lines but these are of little use for the short and abnormal period here under review.

This paper is concerned only with Canadian economic growth and development since 1939. This is rather like analyzing growth over a very short period of life: while, with the qualifications noted above, the analysis can be limited to a relatively short time period, it must be recognized that the extent and nature of the growth is to an important degree shaped by basic physical attributes and by past growth. For Canada, over the long term, economic growth and development has been determined as much by the things we did not have as the things we had. We had an abundance of many kinds of natural resources, but there were important gaps in these resources. Often it has appeared that we did not have enough people. More important, perhaps, we did not have in the beginning an economically logical geographic unit: one of the most striking characteristics of Canadian development has been the enormous effort which has had to be devoted simply to creating and holding together this unit. In its economic aspect one need only think of the building of our national transportation system or the careful syncretism of our commercial policy.

By 1939, the distinctive features of the Canadian economic structure—the product of past growth—were already put in place and by that year our economy was quite well developed by contemporary standards. As we shall see, our advance has been rapid since 1939 but it has been built on an existing structure and this fact alone has helped to shape our growth. For example, it began to be said by some very early in the 1950's that we had in Canada a high-cost economy. In some lines our export trade and secondary industry development were coming under severe competitive pressure and so, it was argued, their growth was inhibited. But the cost characteristics of Canadian industry were rooted only partly in the then current inflationary pressure of demand for raw materials, the strength of labour and the levels of taxation. They were related, too, to our geography, the fewness of our people, the nature of our resources and the means which had been adopted to exploit them. In this way Canada's basic economic structure has continued to condition its economic growth. We seek an answer to the question, why have we grown since 1939 as we have? The answer, in part, is: because up to 1939 we grew as we did.

THE SIZE OF GROWTH—1939-55

Aggregate Growth—1939-55

Table 1 sets forth a series of measurements indicative of over-all or aggregate economic expansion in Canada between 1939 and 1955. Vertically, the table is divided into three sections each of which relates to a particular broad aspect of the expansion.

Table 1

SOME INDICATORS OF ECONOMIC GROWTH IN CANADA 1939-55

	1939	1955	Percent change	Annual rate of change
1. Population (thousands)	11,267	15,601	38.5	2.06
2. (a) Gross National Expenditure (millions of 1949 dollars)	9,640	21,573	123.8	5.16
(b) Consumer expenditures (millions of 1949 dollars)	6,338	14,300	125.6	5.22
(c) Per capita consumer expenditure (1949 dollars)	563	917	62.9	3.10
3. (a) Gross domestic product—industry (millions of 1949 dollars)	8,068	16,434	103.7	4.56
(b) Persons with jobs—industry (millions of 1949 dollars)	3,663	4,664	27.3	1.52
(c) Hours } Agriculture	59.4	55.3	- 6.9	
per } business	45.2	41.3	- 8.6	
week } industry	50.2	43.7	- 12.9	- .87
(d) G.D.P. per man-year—industry (1949 dollars)	2,203	3,524	60.0	2.98
(e) G.D.P. per man-hour—industry (1949 dollars)	.84	1.55	84.5	3.90

SOURCES: 1. D.B.S. Newfoundland included in 1955 figure. 2 (a) and 2 (b) 1955: D.B.S. *National Accounts Income and Expenditure* 1950-1955; 1939: Mechanical conversion of D.B.S. series on 1935-39 base, *National Accounts Income and Expenditure* 1929-50. 3 (a) — (e) Wm. C. Hood and Anthony Scott, *Output, Labour and Capital in the Canadian Economy*, Chap. 5, Ottawa, 1957. A study prepared for the Commission.

The first section, showing population increases, is scarcely a feature of Canada's economic growth, but is closely related to it both as cause and effect. The increase, which includes the increase through the accession of Newfoundland, was equivalent to 38.5%, with most of the gain having occurred in the postwar years. Based on census data from 1851, only the rates of gain in the decades 1851-61 and 1901-11 exceeded the rate averaged since 1939 (2.06%). Between 1945 and 1955, the increase averaged 2.60% per year.

The second section of the table records, first, the expansion of output in the period as measured by Gross National Expenditure (G.N.E.) data. By this measurement, the volume of goods and services produced in Canada has increased by almost 125% since 1939. Aggregate and per capita consumer spending, also shown in this section of the table, reflect the improvement in Canadian living standards, or more accurately material living standards, in the period. As measured by the constant dollar value of his spending, the average Canadian might be said to be about 60% better off than he was in 1939, his rate of improvement thus having averaged some 3% per year.¹

Though not shown in the table, this improvement is evident, too, in the consumption of specific things or classes of things. On a constant dollar basis, per capita consumer outlay on food has risen 43% since 1939. While in minor part this reflects a quantitative increase (on the average) in food purchases, it also reflects a changed composition of food consumption — a shift away from so-called inferior foods — and also a broader diversification in purchases. Similarly, per capita outlays for clothing have gone up 53% in the 16-year period, again as a result of both quantitative increases and qualitative improvements. The constant dollar valuation placed on housing rental has risen 79% in the period, almost a 33% per capita gain.² These were the improvements in the basic necessities — food, clothing and shelter. In another direction the growth has been much more spectacular: per capita consumer spending (constant dollars) on durable goods — in the main, the major home appliances, furnishings and automobiles — has increased 135% in the period.

¹Canadian consumers elected to take part of their improved living standards in the non-material form of more leisure. Somewhat in the realm of fancy, one might venture to measure the rise in living standards with this element included. Canadians might have worked, in 1955, 18.5% more hours per week, thereby retaining their 1939 work week. Had their productivity not been impaired, their material production might have increased proportionately this much more. If this increased availability of goods and services were taken up in consumption, living standards would have risen in all some 92%. Since the additional leisure, on the assumption that it was preferred as a matter of choice, can be said to have held at least as much satisfaction for consumers as the alternative goods and services, it would thus appear that living standards in all have gone up by over 90% since 1939. It should hastily be added that, the assumptions embodied in this process of calculation being numerous, and indeed tenuous, the result should be viewed at the very least cautiously.

²The estimate includes rental imputed to owner-occupied dwellings.

In the third section of the table economic expansion is viewed from the standpoint of production in the industrial economy — *i.e.*, excluding the contribution to over-all activity from the governmental and institutional sectors (and the estimated contribution imputed to the rent of residential housing) but including agriculture. Industrial output as thus defined has increased 104% over the 16-year period, equivalent to a rate of gain of about 4.6% per year.

We are not yet concerned with the extent to which these various increases reflect growth in the period nor with the causal factors underlying the growth, but in the table the aggregative increase in industrial output is broken down into its components in terms of number of workers, hours of work and, derived from these and the aggregate output data, production per worker per hour. It will be noted that to a considerable degree the increase in the number of persons with jobs has been offset by the shortening of the work week. The effect of this has been that the total labour input, expressed in hours per year, has increased in the industrial economy from some 9.6 billion man-hours in 1939 to 10.6 billion man-hours in 1955, a rise of only some 10.4%. Meantime, as just noted, slightly more than a doubling of output has occurred. This has been achieved by means of the improvement in production per man-hour which has risen at a rate just under 4% per year.

In a word, over the past 16 years, while our population increased by almost two-fifths and material living standards, per capita, rose by over 60%, there was an increase of only some 10% in the expenditure of labour time. This was made possible by a fuller employment of the production factors, particularly in the early wartime years (relative to 1939); by a transfer of labour from agriculture to more highly productive (as measured by value of output) activities and by a high rate of capital formation, particularly in the postwar years.³

This last point is especially important and deserves further comment since it is primarily by the process of capital formation that growth in output takes place. While we may look for evidence of economic growth in higher levels of consumption or a more diversified composition of consumption or more leisure, the basic criterion of economic growth is perhaps most often taken to be the increase in productive capacity by the process of investment.

Some indication of Canadian economic growth by this criterion can be derived from estimates of industrial fixed capital stock prepared by the Commission staff and shown in Table 2. In this table gross stock data are

³The first of these three factors, while contributing to the economic expansion of the period, was not an element of growth; the unemployed or underemployed resources brought into full use between 1939 and 1944 were available as a result of growth which has taken place in an earlier period. The second factor—the transfer of labour from agricultural to non-agricultural activity—did reflect growth in the economy since it was largely made possible by the increased application of capital in the farm sector.

used; that is, the estimates do not make allowance for depreciation. The data are necessarily approximate and should be taken more as indicative of trend than of absolute values.

Table 2

INDUSTRIAL FIXED CAPITAL STOCK: 1939, 1945 AND 1955 IN
CONSTANT (1949) DOLLARS

	1939	1945	1955
Aggregate (billions)			
Construction	18.0	18.1	20.9
Machinery and equipment	6.0	6.8	17.1
	<hr/>	<hr/>	<hr/>
Total stock	24.1 ^a	24.9	38.0
Per capita stock	2,150	2,050	2,450

^aColumn does not add because of rounding.

SOURCE: See Hood and Scott, *op. cit.*, Chap. 6. The authors emphasize throughout their discussion the qualified nature of the estimates due to inadequate prewar data and technical statistical difficulties. The latter includes the problems of deriving constant dollar figures and an inability to treat in a quantitative way qualitative improvements in machinery and equipment or suspected changes in the average service life of assets (due to variations in the intensity of wear or the rapidity of obsolescence).

Preference for gross stock data for this particular purpose — rather than net stock figures where allowance is made for depreciation, after the fashion of a corporation balance sheet — is based on the following comment by the authors:

“The gross stock, seems to be most valuable when discussing capacity We are impressed by arguments that most capital goods do retain most of the efficiency of their early years until they are finally discarded. Indeed, with respect to machinery and equipment the rapid onrush of obsolescence and the stiff competition which exists within industry between rival users of machinery and equipment, suggests that there is every incentive to discard such items as soon as their efficiency begins to decline. That is, the average service life that we have used may be considered as representing that period within which equipment retains its original efficiency.”⁴

Although, as has been mentioned, the estimates must be used with caution, they show as between 1939 and 1945 very little change in aggregate capital stock and a marked increase in the ensuing postwar decade. As is discussed more fully in subsequent sections, it can be inferred from this that wartime economic expansion came about primarily as a result of more intensive use of the factors, and also an important transfer of labour from agricultural occupations (where there had been severe underemployment) to industrial occupations, rather than from a growth of economic capacity

⁴Wm. C. Hood and Anthony Scott, *Output, Labour and Capital in the Canadian Economy*, Chap. 6, Ottawa, 1957.

insofar as this would be reflected in an increasing capital stock. The postwar experience has been quite different; there has again been economic expansion, but this time reflecting growth and development. For most of the postwar decade the factors of production have been used fairly uniformly at full employment intensity while capital stock has increased rapidly.

International Comparison

It is also of interest, in setting forth some of the measurements of Canadian economic expansion since prewar, to make comparisons with the expansion in other countries. Such comparisons must be viewed with reservations. Some of the difficulties involved in the measurement of expansion for a single economy have already been mentioned and these are multiplied when international comparisons are attempted. These problems, however, can (a) be reduced in number by restricting the comparisons to countries which are broadly similar as to levels of economic development, aspirations and institutions, and (b) be reduced in importance if the comparisons are clearly understood to be offered only as orders of magnitude. The countries selected for comparison below appear to qualify under condition (a) but should be read, chiefly due to statistical inconsistencies and inadequacies, with condition (b) in mind. For these comparisons, the years 1938 and 1954 have been used. For the overseas countries, 1938 is the prewar base year most commonly in use; for Sweden and Australia, 1954 was the latest year for which data were available.

Table 3

INDEXES OF POPULATION; NATIONAL INCOME, EXPENDITURE ON FOOD AND CLOTHING, PER CAPITA; AND G.N.P. PER EMPLOYED WORKER, FOR SELECTED COUNTRIES IN 1954 (1938=100)

	(1) Canada	(2) U.S.	(3) U.K.	(4) Sweden	(5) Australia
Population	136	125	107	115	130
G.N.P.	170	150	135	150	135
National income	180	180	150	150	150
Expenditure on food	145	140	110	130	135
Expenditure on clothing	145	120	96	136	95

NOTE: Product, income and expenditure data based on constant monetary units.

SOURCES: (1) D.B.S. (2) to (5) *U.N. Bulletin of Statistics*, February, 1956.

Also (2) *U.S. Survey of Current Business*, February, 1956.

(3) *U.K. Annual Abstract of Statistics*, 1955.

(4) *Statistics of National Production and Expenditure*, 1938, 1947-52; OEEC, 1954; *National Budget*, 1956.

(5) *National Income and Expenditure 1954-55; Monthly Review of Business Statistics*, October, 1955.

EXPANSION IN WARTIME

TABLE 1 showed something of the size of the Canadian economy in 1939. Had the data been traced back through the preceding decade, they would have shown an economy first in sharp decline and then responding hesitantly to a world trade environment which was, for Canada, also hesitant and sluggish. Between 1930 and 1939 the number of wage-earners employed had not on an annual basis exceeded 88% of the labour force and had been as low as 73.5%. Up to March, 1940, some \$375 million had been spent under relief legislation, with the peak annual expenditure — \$53.4 million — coming in 1937. The real incomes of Canadians in this period had averaged only 5% lower than 1928-29 levels but in 1933 had been 22% lower; the volume of investment by private industry, after shrinking away to one-fifth of its pre-depression peak, had come back, by 1939, to a level still well below one-half that peak.

In the year 1939, ten years away from the last period of prosperity, more than 11% of the labour force were without jobs. Even this understates the case: between 1931 and 1939 agricultural workers increased by some 160,000, a shift which reflected not additional job opportunities on farms but the lack of jobs in industry. The volume of our exports was just slightly ahead of the 1928 level, despite a pickup in the latter part of the year associated with the war buildup; the volume of our imports, to some extent reflecting protectionist policies adopted in the depression, was well below the 1929 peak.

It would be inaccurate to say there was no economic growth in Canada in the 1929-39 decade, but there had been no net growth. No doubt some of the excesses and inefficiencies which had developed in the boom years had been squeezed out but the wastage and loss through disuse of capital and manpower resources were greater offsets. For the Canadian economy, the strains imposed through 1929-33 had required a long convalescence and even by 1939 recovery was by no means complete.

This was the situation at the beginning of the period here under review, a situation which the demands of total war completely changed. From a preoccupation with the need to support and stimulate economic activity, the emphasis was soon to change to one of holding the new powerful demand forces within the range of capability. Rather than 'not enough to do', the problem became 'too much to do'. To Canada, the war meant that, "in addition to providing men and materials for her own fighting forces, she must, to the maximum of her ability, furnish her Allies with food, munitions, equipment, and raw materials."¹

How much the Canadian economy was able to do is reflected by the rise in output between 1939 and 1944 when production was at its wartime peak. In constant dollars, the value of aggregate output rose by two-thirds; industry output — both agricultural and non-agricultural sectors — increased by just over 50%. How this production increase was achieved — the details of planning, organization and control — is part of the larger story of the Canadian war effort which need not be retold here. Our interest lies, rather, in the impact of the war on the Canadian economic structure from the standpoint of altering its size and shape.²

In some ways Canada was in a fortunate position at the start of the war: it had as its particular assets a favourable location for the job it was to do, ample material and capital resources and, though later to become a scarce factor, a relatively large manpower pool readily available because of considerable unemployment or underemployment. These assets were brought to bear on demands directly generated by the war and ultimately estimated at \$28 billion.

With regard to capital input, the industrial capital stock which was in existence in 1939 and which could be used or adapted for use in war production, was brought to capacity operation as speedily as possible. It was, moreover, to be kept in operation beyond normal retirement age. Additionally, from September, 1939 to the end of 1944, government and private investment of all types totalled some \$7.2 billion, representing an average investment of about \$1.3 billion annually. It was estimated that investment associated with the war effort alone totalled \$4.3 billion (through to August, 1945). In contrast, although price factors distort comparison, in the ten-year period 1930 to 1939 inclusive, new investment had averaged \$675 million and had fallen as low as \$326 million.

¹*Canada Yearbook*, 1940, p. XXXI.

²Sources of much of the data used here have been: *Location and Effects of Wartime Industrial Expansion in Canada 1939-1944*, Department of Reconstruction, Ottawa; November, 1945; and *Encouragement to Industrial Expansion in Canada*, Department of Reconstruction and Supply, Ottawa, 1948.

Labour input also expanded greatly in response to war needs. It was noted³ that at its peak, Canadian civilian labour force participation, proportionate to population over age 14, was higher than that of any other Allied nation save Great Britain. In June, 1944, over 1.8 million persons were engaged in war work or were in the armed forces, the latter having reached a total of 784,000 persons as against 10,000 in June, 1939. The following table summarizes the means by which these manpower needs were met.

Table 4

**DERIVATION OF WAR WORKERS AND ARMED FORCES,
JUNE 1, 1939 TO JUNE 1, 1944**

	(thousands)
Decrease in civilian non-agricultural, non-war employment	296
Decrease in agricultural employment	210
Sub-total	506
Decline in unemployment	687
Decline in number of students	192
Natural increase in work force	290
Additional women in industry and people out of retirement	154
Sub-total	1,829
Armed forces, June 1, 1939	10
Total war workers and armed forces	1,839

SOURCE: *Location and Effects of Wartime Industrial Expansion*.

The gainfully employed, including the armed forces, had totalled just over 3.6 million in June, 1939. Thus in five years the increase had been 37%. As the table indicates, the change in manpower distribution was greater than this, some half million persons having shifted out of agriculture and non-agriculture non-war employment.

Growth and Development—1939-44

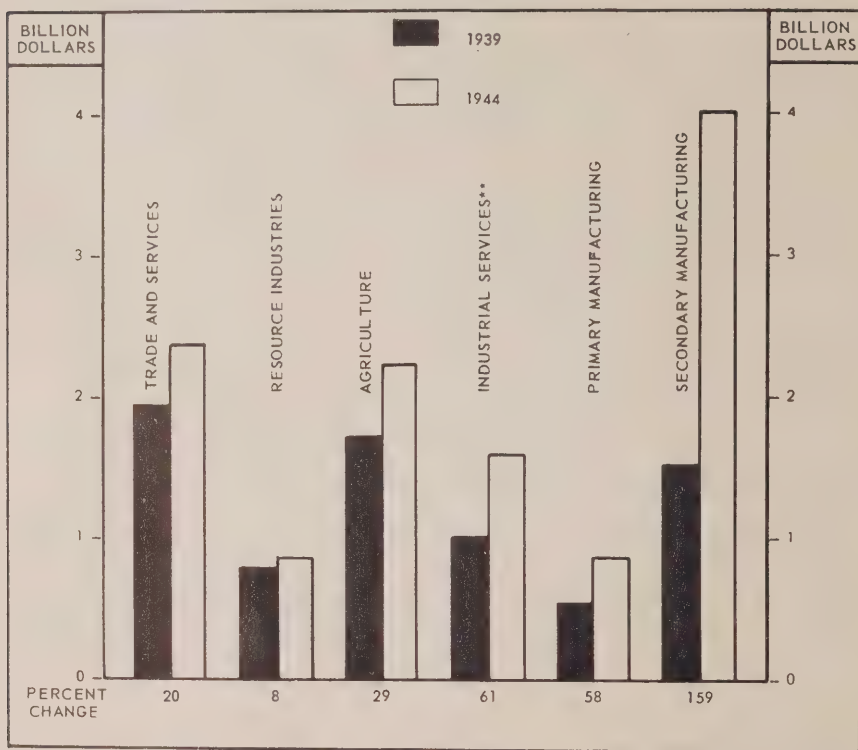
This, then, was the nature of over-all economic expansion in wartime. It will be recalled that in the terminology which has been adopted, economic expansion refers to the total change in the economy (or in some section of it) and that, particularly in the 1939-44 period, this is made up of two factors: a change in the rate of use of the factors and increases in the factors themselves. Economic growth, which is the special interest of this study, refers only to the latter element.

³By Dr. F. Cyril James before the Senate Special Committee on Economic Re-establishment and Social Security. See *Proceedings*, Vol. 1, 1943.

The impossibility of measuring this element in any precise way has been mentioned. Moreover, one of the most important factors indicating growth, capital investment, is unfortunately not available in any detail for the wartime period, precisely the period when the distinction between growth of resources and intensified use of resources is most important. Accordingly, it is necessary to adduce growth (or the lack of it) from other factors, at times much less satisfactory and at times fragmentary.

CHART I

GROSS DOMESTIC PRODUCT BY SECTORS, 1939 AND 1944*
CONSTANT (1949) DOLLARS



*For Agriculture, where annual variations are influenced by weather, 1935-39 and 1940-44 averages have been used.

**The Industrial Services Sector includes Transportation, Storage, Communications and Construction.

SOURCE: See Wm. C. Hood and Anthony Scott, *Output, Labour and Capital in the Canadian Economy*, Chap. 5, Ottawa, 1957. A study prepared for the Commission.

Chart 1 illustrates in terms of industrial sectors or groups the shape of the economic expansion which resulted from war-induced demands. These sectors are discussed individually below but, in passing, one striking feature of the chart may be noted. The authors of the Rowell-Sirois report, looking

back on Canada's economic development up to 1939, commented on the relative expansion of manufacturing in Canada resulting from World War I. This experience was repeated in the last war, with a special emphasis on secondary industry. As measured by volume of output, this sector increased by one and one-half times between 1939 and 1944, to become by far the largest sector where it had ranked third immediately prewar. Economic growth and development, too, was the greatest in this sector, but we shall defer detailed discussion of this aspect for the moment.

Relatively little expansion of output occurred in *trade and services*, *resource industries* and *agricultural sectors* during the war. Broadly speaking, the first of these sectors felt the effect of wartime restrictions most severely. The volume of output in the *trade and services* group rose by roughly 20% between 1939 and 1944, but this was much less than the wartime rise in incomes, which was about 75% in real terms. The offsets were increased taxes, higher savings and shortages of consumer goods. But while output expanded, evidence of growth or development by the criteria generally applied is lacking. One such criterion is an increasing proportion of the work force employed in this sector. The following table illustrates the long-term trend in Canada.

Table 5

PERCENTAGE OF LABOUR FORCE IN TRADE AND SERVICE
INDUSTRIES BY CENSUS YEARS, 1881-1951

	Percent		Percent
1881	14.9	1921	25.5
1891	18.8	1931	27.3
1901	22.2	1941	27.0
1911	22.6	1951	30.9

SOURCE: D.B.S. The figures have been taken from a study of the service industries prepared for the Commission by the Bank of Montreal. The study quotes Colin Clark, *The Conditions of Economic Progress*, as follows: "Studying economic progress in relation to the economic structure of different countries we find a very firmly established generalization that a high average level of real income per head is always associated with a high proportion of the working population engaged in tertiary industries".

It will be noted that the upward trend was interrupted in 1941. Undoubtedly, were data available, the proportion would show further declines as the war progressed. A second criterion of growth, increased capacity through the accumulation of capital stock, is difficult to apply to this sector, particularly in regard to services. To the limited extent that it is relevant, however, capital investment in this sector was deferred wherever possible during the war and it is almost certain that capital stock declined in this period.

The relatively limited expansion of our *resource industries* in wartime appears at first sight surprising; the volume of output from our mines and forests might have been expected to increase much more markedly than the

8% shown in Chart 1. The detailed explanation of this apparent anomaly lies outside the scope of this paper, but the following are the main reasons:

(1) The pattern of use of the resources changed: the metals which had gone to make durable goods, or in some instances had been exported, now went into war material. Civilian construction, which had required steel and lumber among other things, simply became construction for war purposes.

(2) Related to this, there were some shifts in production, particularly in the minerals: in the big volume minerals, there was a major decline in gold output and a large increase in zinc output.⁴ In some minerals of strategic importance — for example, chromite, magnesium, mercury and tin — output rose spectacularly, but volume remained small in the aggregate and was not maintained when war needs subsided.

(3) In some lines, notably coal, petroleum and iron ore, there were large-scale increases in imports. Comparing the average annual volume of imports as between the two periods 1935-39 and 1942-44 proportionate increases in the order of the commodities mentioned were: 101%, 40% and 102%.

Thus wartime needs did not impose heavy additional demands on the Canadian mineral industries and it can be inferred from the output trends that there was little growth or development in this sector during the war. But an exception to this should also be noted. Installed electric power capacity increased by just under 25% between 1939 and 1944. The load factor on capacity also rose somewhat and in the result power consumption averaged about one-third higher in 1944.

In the *agricultural sector*, the accent was, again, more on shifts in production than on expansion. Over-all, the volume of agricultural production between 1940-44 was some 31.5% higher than in the 1935-39 period (though this comparison is influenced by the unfavourable weather conditions in western Canada in some of the prewar years). By 1944, output in the livestock and poultry sub-industries had increased by 68% and 63% respectively. In regard to growth, the impact of the war was still more limited: the increases in output came primarily from a high rate of use of existing agricultural facilities rather than an increase in capacity as such.⁵ Indeed it seems probable that the agricultural plant — in terms

⁴The composite index of metal mining production was 118.6 in 1939 (1935-39=100) and 94.9 in 1944; it was 129.7 in 1941. Excluding gold, the indexes were 1939—116.9; 1941—130.9; 1944—109.0. The rapid upsurge of production in the early war years reflects (1) the fact that war needs were at first to a degree superimposed on civilian needs; and (2) the fact that anticipated requirements were out of line with eventual actual requirements. Subsequently, the decline in defence construction, manpower shortages and inadequate development work to maintain production combined to bring about the reduced production of 1944.

⁵Toward the end of the war, special labour recruitment programmes, special priorities assigned to certain types of agricultural equipment and programmes to allocate available supplies of fertilizers all indicate that the farm sector had reached the limit of its then productive capacity.

of farm land, equipment and machinery, and manpower — was smaller at the end of the war than at its outbreak. Though the area of improved land rose slightly, the number of farms in operation declined; because of shortages, the stock of farm capital almost certainly decreased and, in regard to manpower, the decline was pronounced: by 1944 the farm labour force was 200,000 persons smaller than in 1939, a decline of 18%.

The fact was that, prewar, industrial employment and generally depressed economic conditions had resulted in widespread underemployment of both manpower and resources on farms. In this sector, perhaps more than any other, there existed excess capacity to meet the demands generated by the war. Indicative of the scope for expansion is the fact that, without increased capital equipment, production per man in agriculture appears to have averaged during the war about 50% above the average for the five prewar years. But from this experience, if agriculture did not gain in capacity during the war, it gained in efficiency.⁶ Moreover, in releasing manpower, a material contribution was made to expansion in other sectors.

In the so-called *industrial services* group⁷ the expansion of output, approximately 61%⁸ was second only to that of the secondary industries group. The evidence suggests, however, that although there was some expansion of facilities, a more intensified use of facilities played an important part. The railway transportation industry, a major component of the sector, is a case in point. Physically its over-all plant in terms of rolling stock and locomotives changed little; but much outdated equipment, which constituted a secondary reserve, was reactivated and the work-load on existing units was increased by accelerated schedules and other means. Manpower increased by about a third but at the same time was re-deployed to maximize operations and the maintenance of operations.

In brief, there was in the transportation and communication sectors an elasticity in capacity which permitted a marked expansion of output without a proportionate addition of new capacity. Undoubtedly, too, existing capacity was used far more intensively than would have been regarded as desirable in terms of either peacetime service or sound operational standards. In effect, then, the increase in capacity in wartime was largely non-permanent and would disappear with a reversion to normal peacetime operations. Something similar could be said of construction activity; in the circumstances of wartime labour and material shortages, much construction was temporary

⁶The sector also became much stronger financially. Unable to expand capacity during the war, higher farm income was directed to an important degree toward debt retirement. The 1946 *Census of the Prairie Provinces* (Vol. IV, Agriculture, p. 4) gives the following data for farm indebtedness in the West—i.e., mortgages and/or agreements for sale: 1936 — \$347.8 million; 1941 — \$296.6 million; 1946 — \$159.7 million.

⁷Embracing transportation, storage, communications and construction sectors.

⁸The timing of expansion in the construction industry differed from that of the other industrial service industries. By 1944, construction output was only 14.5% over 1939, but had been almost 50% higher in 1942, the peak wartime year. Excluding construction output in this sector in 1944 was 96.5% above 1939.

and, by civilian standards, austere. The expansion of output did not signify expanded capacity as that capacity would be employed in peacetime.

In contrast to the sectors thus far discussed, the *primary manufacturing industries* group experienced considerable growth during the war. While over-all capacity in this sector cannot be measured, growth is indicated first by the increase in volume of output during the war — roughly 58% between 1939 and 1944 — and, more particularly by the impact of the war on specific industries in the group. There were no instances of declining output in terms of industries (though this was not true of all individual commodities). Some of the major increases are shown in Table 6.

Table 6

**OUTPUT IN SELECTED PRIMARY MANUFACTURING INDUSTRIES,
IN MILLIONS OF 1948 DOLLARS, 1939 AND 1954**

	1939	1944	Percent increase
Meat products	54.0	101.0	87
Dairy products	33.4	57.1	71
Smelting and refining	103.2	183.7	78
Chemicals products	20.1	59.3	195

SOURCES: Gordon Commission memorandum, *Canadian Labour Force, Hours of Work and Gross Domestic Product, by Industry, 1935-54*.

The first two of these reflect the wartime shift in domestic and export food demand, shifts toward processed meats, butter and cheese, for example, which entailed increased processing. Although data on the expansion of plant facilities in these sectors are lacking, employment increased by roughly 50% between 1939 and 1945. The increased output in the latter two industries shown in the table directly reflect increased military and defence needs. An important component of the smelting and refining sector was basic aluminum production where output rose from 82,000 tons in 1939 to 468,000 tons in 1944 as the manufacturing facilities at Arvida were expanded. The increased output of chemicals rose in part from wartime requirements for explosives and in part from increased industrial needs; domestic facilities for the manufacture of sulphuric acid, for example, were doubled during the war. It might also be mentioned in passing that aside from the physical growth in this sector, another aspect of growth was the increased technological and production skills which were acquired. This point is discussed in more detail in the section on secondary industries.

As was noted earlier, in terms of output, the impact of the war on Canada's industrial economy was by far the most pronounced in the *secondary manufacturing industries* sector. For this sector, however, much more than for any of the others, it is necessary to distinguish between economic expansion and economic development or growth. The war effort in this country as in others, was planned and executed with victory its

paramount aim and its contributions to our economic development in this sector particularly were in a sense by-products, or legacies, rather than objectives in themselves. Either because of location or type, some of the expansion of manufacturing capacity was quite useless, insofar as this expansion could be said to have contributed to our development. A chemicals and explosives plant built at Transcona, Manitoba, would have had locational disadvantages in peacetime use and so was subsequently abandoned (it was, in fact, of temporary construction); the 130-odd plants engaged in producing shells and other types of ammunition and components represented vastly more capacity in these lines than was necessary in circumstances other than total war. These were instances of industrial expansion whose contribution to Canadian economic development cannot be gauged by the surface measurements of the capital expenditures involved or the increased output which resulted.

Indeed, there is no satisfactory measure of the wartime growth in Canadian secondary industry, though several reports⁹ published at the end of the war do offer some evidence on the subject. It was estimated that of the \$3.5 billion capital expenditure by business directly or indirectly for war purposes, "some \$2.2 billion worth of investment was found readily adjustable for peacetime industrial efforts",¹⁰ although the report also points out that, after allowance for the period of wartime operation, the postwar use value would have been lower than this.

In a more detailed report¹¹ published in August, 1946, the Department of Reconstruction and Supply reported the results of a survey of 643 of the larger plants which had been engaged in war production. About 5% numerically had been deemed not usable in full or in part for peacetime production. Another 39% had to undergo conversion, amounting in some instances to major adaptation. Of the remaining 56%, a subsequent report¹² states in summary, "about half, or 28 per cent, needed modernization and expansion of their facilities, while another 28 per cent required minor adjustments" The first of these two groups presumably represented prewar or early wartime plants which had received heavy use throughout the war or were approaching obsolescence.

This survey covered large plants only and is thus not representative of Canadian manufacturing industries generally. It can be inferred, however, that this important group of companies — it accounted for roughly 40%

⁹See references below.

¹⁰*Encouragement to Industrial Expansion in Canada*; Department of Reconstruction and Supply, Ottawa, 1948, p. 15. These figures exclude the spending of some \$800 million on defence construction.

¹¹*Reconversion, Modernization and Expansion, Progress and Programs in Selected Canadian Manufacturing Industries, 1945-47*, Department of Reconstruction and Supply, Ottawa, August, 1946.

¹²*Encouragement to Industrial Expansion, op. cit.* p. 15.

of manufacturing employment in March, 1946 — represented in their expansion a major addition to Canadian economic capacity.

The relative growth of secondary industry as a result of the war also made what might be called a qualitative contribution to Canadian economic development. Stated briefly, the war shut off or reduced the flow of imports in many lines creating a need for new domestic manufacturing facilities and, secondly, the expansion of war production led Canadian industry into new and highly complex manufacturing operations or so expanded some existing operations as virtually to constitute new industries. The production of machine tools, diesel engines, electrical equipment and new chemical lines are often quoted as examples in these various categories.

Moreover, just as physical capital resources were enlarged and broadened by the impact of the war on the manufacturing sector of the economy, so its manpower resources were enlarged and broadened. Table 4 showed the quantitative effects of the war on labour requirements but, additionally, with the diversification of industry new management and labour skills were acquired. As in the case of plant facilities, it was not strictly relevant to our economic development that our munitions industry, for example, produced perhaps 200 million shell fuses and primers during the war but in achieving volume production of these items, which were in themselves intricate and required close tolerance control, Canadian management, labour and engineering skills were upgraded.¹³ These achievements, although not quantifiable, undoubtedly constituted an increase to our economic capacity.

Under the exigencies of total war, Canadian industrial capacity had increased and became more diversified. There had been growth and development. Two further observations might be made in passing. As a result of special regulations providing rapid depreciation allowances and also because of a high level of direct government investment much of our expanded manufacturing capacity had been bought and paid for. This reduced or eliminated financial encumbrances which would almost certainly have imposed serious burdens in the postwar readjustment years (as happened, for example, after World War I). It also made economically possible the conversion to civilian production of a much larger proportion of our wartime plant than would otherwise have been possible. Secondly, our war production experience gave to Canadian industry a new confidence in its ability to match the performance of other countries in the field of industrial production.

¹³A war emergency training programme, later brought under the provisions of the Vocational Training Co-ordination Act of 1942, was designed specifically to assist in the training of workers to meet the more complex job requirements.

YEARS OF ADJUSTMENT

THE PERIOD from mid-1944 to 1949 — here designated the years of adjustment — is by no means a homogeneous one in the sense that this term can be applied to the war years. During the war period, the economic trend moved consistently in one direction: under the single and overriding influence of the war, the economy expanded. This was now to change. The forces which were to play on the economy over the years to 1949 were to vary and shift, threatening alternatively deflation and inflation, until reconversion to a peacetime basis was completed. Perhaps the only uniform feature of the period was the feature of change; not only was a major realignment of the domestic economy necessary, but in the world economy, Canada had to fit herself into a trade pattern which was quite different from that which had prevailed in the '30's. By 1949 this adjustment phase was ended and our economy was beginning to take on the characteristics of what has come to be regarded as a kind of normal pattern.

Mid-1944 to Mid-1946

The war in Europe ended in May, 1945 and in the Far East in August of the same year. Thus the term postwar period accurately applies to less than the whole period here to be considered. In fact, however, the war buildup — the phase which caused wartime economic expansion in Canada — had drawn to a close fairly early in 1944.¹ Moreover, although postwar planning had been under way for years — had, in fact, begun shortly after the outbreak of hostilities in 1939² — it was in 1944, when the ultimate size of the war effort could be gauged, that the initial movements toward a peacetime basis began.

¹Employment in Canadian War industries had reached a peak in October, 1943, though declines immediately thereafter may have reflected enlistments in excess of the remaining available labour supply. The D.B.S. *Index of Manufacturing Employment* (seasonally adjusted) reached its peak in January, 1944, and drifted downward through the remaining months of the year.

²For a brief account of the early organizational phases of postwar planning see *Wartime Economic Co-operation*, R. Warren James; Ryerson Press, Toronto, 1949; pp. 346-366.

But notwithstanding the fact that postwar planning had at least to some degree long occupied the minds of governments, and that the sustaining force of huge wartime governmental expenditures began to be withdrawn at least a full year before hostilities ended, the problems associated with peace now closed in quickly. It seems clear on reviewing the elaborate arrangements for a gradual disengagement of the Canadian and United States economies following VE Day, that the defeat of Japan was not then contemplated to be a scant three months away. The great question of the day, however it was phrased, was: would we be able to sustain on a peacetime basis the greatly expanded economy, the high levels of income and employment which the war had brought? The sudden end of the fighting in mid-1945 gave this question a frightening imminence.

To be sure a short-term inflationary threat was recognized but extensive price control had kept it suppressed in wartime and continuation of controls, coupled with the policy of gradual decontrol, were charged with the main responsibility of containing this threat for the initial period of extreme scarcity of consumer goods. Additionally, the successful 8th and 9th Victory Loans of 1945 removed by one degree at least the immediate market pressure of some \$3.5 billion of cash resources in corporate and private hands.³

But most public statements, no doubt conditioned by memories of the 1920 collapse and of the Great Depression, stressed the threat of deflation. The then Governor of the Bank of Canada, Graham F. Towers, summarized the size and nature of the problem with the following table and comment in his Annual Report concerning the Bank's operations for 1945:

Table 7

NATIONAL EXPENDITURE (billions of dollars)

	1938	1945
Net exports of goods and services directly or indirectly financed by government.		
Other government expenditure on goods and services.	.9	4.5
Other net exports of goods and services	—	.4
Gross private investment in Canada	.4	.8
Personal expenditure on consumer goods and services.	3.7	6.5
G.N.E. (=G.N.P. at market prices)	5.0	11.4

"Clearly it is the first two items in the . . . table, comprising total government outlay, which represented the main driving force behind

³As events turned out, changes in the foreign trade sector somewhat eased the inflationary threat. Between 1945 and 1946, exports (in 1949 dollars) fell from \$5.0 billion to \$4.1 billion; imports only fell from \$4.0 billion to \$3.9 billion. The commodity trade surplus was greatly narrowed thus, in effect, reducing the net drain on Canadian resources. In addition, while our imports of military material fell off in 1946, the virtual maintenance of over-all imports suggests that non-military imports increased.

the very high level of activity which was attained during the war period. Canada's problem now is to expand the other types of expenditure, and particularly domestic private investment and domestic consumption, in order that there will be compensating stimulus as government outlays decline to their post-war level."⁴

Again, in his annual report of February, 1944, the Governor of the Bank of Canada had been discussing a reduction in the Bank's rediscount rate signifying an intention to follow a cheap money policy. He said:

"A policy aimed at higher interest rates would only become intelligible if, after war shortages are over, consumers' expenditure and capital development were to proceed at a rate which would overstrain our productive capacity. *I see no prospect of such a situation arising in a form which would call for a policy of raising interest rates.*"
(Italics added)

Presumably, the Governor was reflecting the predominant view in Ottawa throughout this period and accordingly, one finds the main direction and purposes of governmental policies and actions directed toward giving support and stimulation to the economy. There is no need here to review the various measures at length; a summary list of the principal measures will indicate the direction of the policy-planning. The general thinking was indicated in the White Paper on Employment and Income (April, 1945) outlining six main objectives: assistance to overseas countries; stimulation of exports; aid to industry and to agriculture to reconvert and modernize; initiation of a housing programme assistance to speed up production of consumer goods. The general commitment was made to initiate plans and programmes to make possible "the attainment of high and stable employment and income". Some of the specific measures which gave form to the White Paper policies were:

In the foreign trade sphere: vigorous participation in UNRRA and related measures; the granting of large export credits, notably the U.K. loan; creation of the Exports Credits Insurance Corporation.

In the investment sphere: introduction of fiscal incentives (special depreciation provisions) and reaffirmation of an easy money policy; creation of the Industrial Development Bank providing credit facilities to small businesses.

In the agricultural and housing spheres: farm loan guarantee legislation under the Farm Improvement Loans Act; creation of the Central Mortgage and Housing Corporation empowered to participate jointly with private lending institutions in mortgage loans.

⁴Bank of Canada, *Annual Report to Minister of Finance*, February 8, 1946.

To stimulate spending: early tax reductions in corporate, sales and income tax fields: Highly important in this respect were Veterans' Aid measures and Family Allowance payments. Unemployment Insurance legislation which had been introduced in 1941, also deserves mention in this category in the sense that it operated as a support to income and, therefore, spending.

As mentioned, these policies indicate the prevailing sentiment of the time. It might also be inferred from the success of the two Victory Loan drives of 1945 that the general public, too, was more concerned with prospect of deflation than of inflation. Against the general background, we now ask: How did the economy fare from 1944 through to mid-1946? What implications did the course of events in this period have for economic growth and development?

First, in answer to these questions, it can fairly be said that the readjustment of this period went smoothly and quickly. What was involved was a major change in the direction in which the economy had been moving, from almost complete orientation toward the waging of the war onto the new course charted by the White Paper on Employment and Income. There was a loss of momentum: the index of employment, published at that time on a seasonally adjusted basis by D.B.S., declined from a peak of about 193 (1926=100) at the beginning of 1944 to a low of just over 160 in October, 1945.⁵ Exports fell sharply as shipments of military material were reduced; in the 12 months centred by February-March 1945 exports averaged \$287 million monthly while for the twelve months centred by July-August 1946 they were down to \$194 million monthly.

But against these points, the evidence that the transition was indeed smooth and orderly is seen in the following:

(1) Under gradual decontrol, prices remained relatively stable throughout this period. Between 1944 and mid-1946, the cost of living index rose from about 119 (1926=100) to 124; the general wholesale index rose from a low in the period of just over 130 (1935-39=100) to almost 140.

(2) Aggregate domestic economic activity as measured by Gross Domestic Product data (in 1949 dollars) declined from \$15.8 billion in 1944 to \$13.5 billion in 1946, a drop of 15%. Most of this decline occurred in the government sector as direct defence expenditures were curtailed. In the private sector of the economy, excluding government but embracing both industry and agricultural sectors, G.D.P. fell from \$9.8 billion to just under \$9.4 billion, a decline of only about 4.5%.

⁵*Monthly Review of Business Statistics*, D.B.S., Ottawa. The index of manufacturing employment fell farther: from 242.4 (January, 1944) to 182.4 (October, 1945). Thereafter it rose for some months, but fell back again to 179.9 in August 1946 before beginning a substantial upward course.

(3) Further evidence of the general "success" and speed of reconversion in this period can be adduced from comparisons of wartime statements of postwar objectives and the actual course of events. For example, speaking before the Senate Special Committee on Economic Re-establishment and Social Security in 1943, the Chairman of the Advisory Committee on Reconstruction, Dr. F. Cyril James, suggested a figure of \$7.5 billion as a desirable "average national income figure after the war".⁶ It can reasonably be assumed that the figure was based on prewar prices. Assuming the prewar national income — G.N.E. relationship, this also implies a postwar G.N.E. figure (in prewar dollars) of about \$9.9 billion. Actual data for G.N.E. (in 1935-39 dollars) were as follows:

1944	—	\$9.7 billion
1945	—	9.3 "
1946	—	9.0 "
1947	—	9.2 "

Thus at the postwar low, the achieved G.N.E. total was roughly 10% below the figure which had been suggested as a kind of postwar target.

In a somewhat similar vein, the Governor of the Bank of Canada, in discussing the magnitude of the postwar adjustments, stated in his annual report of February, 1944, that "at least 4,700,000 workers will be available for employment in civilian jobs" after the war. As events turned out, employment trends for the period were as follows:

	1944	1945	1946	1947
			(thousands)	
Civilian persons				
with jobs	4,435	4,357	4,687	4,844
Armed forces	787	761	213	36

Again, the postwar objective as conceived during the war was quickly achieved and, in fact, was almost met throughout this whole period of adjustment.

It would be a lengthy — and, in the present context, fruitless — exercise to debate whether the success of reconversion up to mid-1946 was brought about by, or came about in spite of, the policies of the time. The fact is that for the period thus far considered the trend of economic activity was remarkably stable relative to what it might have been — and, indeed, relative to what was widely feared. This, in turn, is a highly important point. It meant two things. First, it meant that wartime growth and development was essentially preserved through these first critical months. Second, the over-all stability of the period provided the necessary environment under which major shifts within the economy could take place smoothly, thus strengthening the prospects for renewed growth. Through the period from

⁶See *Proceedings*, Vol. I, p. 21.

mid-1944 to mid-1946 the economy was, in effect, playing for time — time to readjust, to reconvert, to repair and modernize. In the main, this was accomplished in an orderly way, with incomes, employment and investments preserved intact. Each month that passed without the development of the familiar pattern of inflation, crisis and collapse gave the economy a broader production base and induced a growing confidence in the outlook.⁷

Economic Expansion—Mid-1946 to 1949

Deflation had been expected to be the major postwar problem and, as we have seen, an array of policies and actions had been brought to bear to counter this threat. Perhaps too much had been done to counterweight the scales. Or perhaps, when the economy turned up in the latter part of 1946 without the deflationary break having occurred, this was all that was needed to instill confidence in producers and consumers alike.

In any case, the orderly transition within the framework of stability was soon to change. The accelerating trend of economic activity is illustrated in Chart 2 showing new investment and consumption trends between 1944 and 1948. Use of annual data may to some extent obscure the true upward trend (which did not conform to calendar years) but the rapid rates of gain in 1946 and 1947 relative to 1945 and 1948 are apparent.

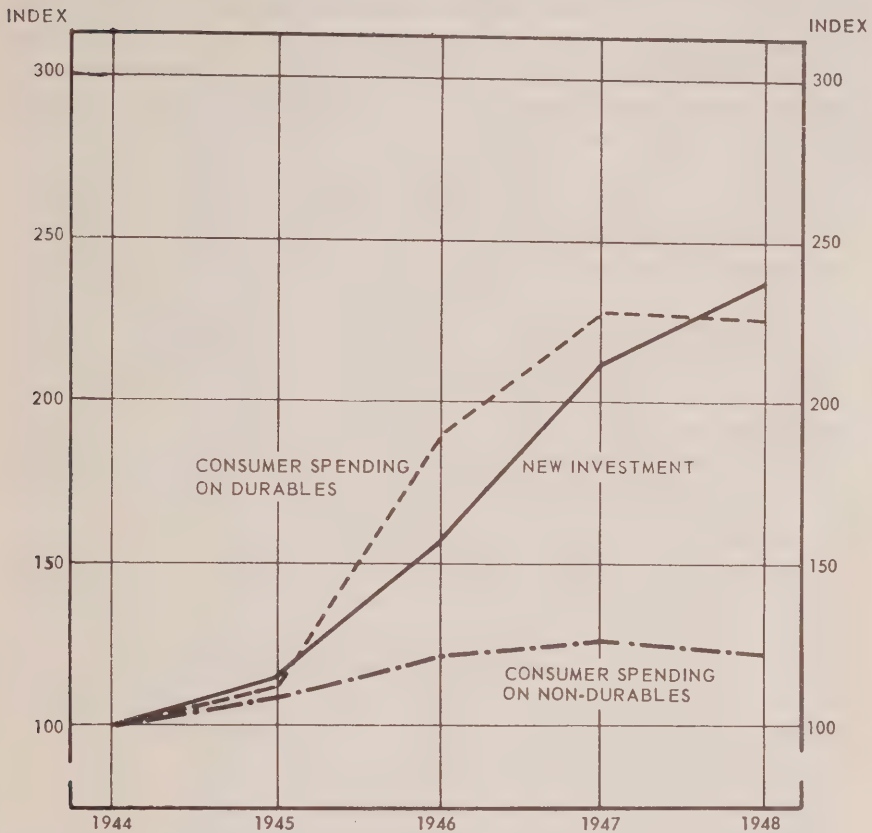
Trends in the major price indexes turned sharply upward. The inflationary pressure which asserted itself was a natural consequence of the rapid upswing, given the fact that the realignment of the economy was by no means complete. Moreover, the sudden abandonment by the United States of its price control system in mid-1946 gave another powerful injection of inflationary pressure to the Canadian economy and at the same time weakened price controls in Canada.⁸ Taking June, 1946, as a reference point, the cost of living index which, had risen 4.3% in the preceeding 18 months, rose to 18.1% in the ensuing 18 months to December, 1947. Wholesale prices, over the same two periods, rose 7.3% and 28.4% respectively.

⁷The point which is here being made is somewhat akin to one emphasized by Professor J. K. Galbraith in his testimony given before the Commission (at Toronto in January, 1956) which he entitled *The Causes of Economic Growth*. Discussing a series of "causes" Professor Galbraith concludes "... there is only one other over-riding requirement for economic advance. That is a level of demand sufficient to maintain full employment, but not so great as to cause persistent and demoralizing inflation. Inadequate demand, such as we experienced in the 'thirties, is the effective enemy of growth." In the special circumstances of the early postwar period, the sequence might have been sharp inflation with attendant dissipation of savings and collapse of confidence, followed by pronounced deflation with consequent destruction of capital values, loss or wastage of the perishable labour factor. Such a sequence would have meant the loss of the wartime growth gains and would have retarded future growth.

⁸It should also be mentioned that in July, 1946, the Canadian dollar was appreciated to parity with the United States dollar. This had the immediate effect of reducing the cost of imports but this advantage was soon lost as United States prices rose relative to Canadian prices. The movement to parity had another consequence, however, which is referred to below.

CHART 2

CONSUMPTION AND INVESTMENT TRENDS, 1944-48
1944 = 100



Based on Constant Dollar Data. New Investment includes Housing.

SOURCE: Dominion Bureau of Statistics.

Writing in 1948 of this course of events, Mr. J. D. Gibson summed up as follows:⁹

"Given the upset state of the world, Canadians as a people have tried to do too much too quickly. In addition to the aid which we provided as a nation to overseas friends and customers, we attempted to maintain a higher level of consumption than ever before and embarked on a tremendous program of capital replacement and expansion. Though Canadian production was in the aggregate some 50 per cent over prewar it was by no means sufficient to meet the combined demands of exports, consumption and investment. Something had to give."

⁹*Canada's Economy in a Changing World*, Ed. J. Douglas Gibson; the MacMillan Company of Canada, Toronto, 1948. Chap. X: General Review.

Apart from the sudden upsurge of prices, what "gave" was our foreign exchange reserves. Bank of Canada holdings of gold and United States dollars skidded from \$1.6 billion at mid-1946 to under \$500 million by November, 1947. We had, as Mr. Gibson observed, "tried to do too much too quickly". The aid which was provided to overseas countries, inclusive of loans, export credits and some \$154 million under UNRRA, totalled \$2 billion. In effect, we were selling a high proportion of our exports on credit,¹⁰ while running a heavy deficit with the United States. In 1946, the current account deficit with the United States totalled \$607 million; in 1947, as our internal boom built up and United States prices rose, the deficit jumped to \$1,135 million. In the over-all balance of payments accounts, an inflow of capital in 1946 had brought the net drain on exchange reserves to about \$250 million. This was a manageable amount in view of the high level of such reserves then on hand. But the movement of the Canadian dollar to par in July, 1946, had dried up the capital inflow and this coupled with the worsening trade balance had resulted in a tripling of the drain on reserves in 1947. Clearly, some action was required to deal with the exchange crises and with the excessive pressure which had developed on resources if the economy was to avoid serious disruption in either its domestic or international operations. The actions taken were, in the main, threefold:

(a) through the operation of the Emergency Exchange Conservation Act, announced in November 1947, imports were controlled and imports of consumption goods tightly restricted.¹¹ Canadian tourist expenditures of United States dollars were also severely restricted;

(b) restriction through the first quarter of 1948 and thereafter, suspension of the United Kingdom drawings on the Canadian loan which had been advanced in 1946;

(c) the announced intention in the budget speech of May, 1948, to obtain a surplus in fiscal 1949. This was the first explicit use of fiscal policy in peacetime "to fight inflation".

Additionally, to offset any immediate inflationary effects of import restrictions under the Exchange Conservation Act, price controls were re-instituted on some items, principally the foods on which there was a heavy import reliance.

¹⁰According to the *Bank of Canada Annual Report for 1946*, the proportion was about one-third of 1946 exports.

¹¹As a kind of side effect of the operation of the Act, the outright ban (and/or restrictions) on certain consumer goods imports created a market gap which was attractive to Canadian producers. In an article entitled "Recent Canadian Economic Policy" (*Canadian Journal of Economics and Political Science*, May 1952.) E. C. Eastman points out that "At least forty-two of the manufacturing firms employing ten or more people, which commenced operations in Canada in 1948, 1949 and 1950, were established because of the import controls or with the aid of the Import Control Division". Several of the firms did not survive the end of the control period (1950). The stimulating effect of the legislation was probably slight, however. It is not reflected, for example, in the available capital expenditure data. Moreover, the government had repeatedly stated that the measures were to be temporary; they were to be removed as soon as the exchange position permitted. Such statements probably tended to discourage many rash and basically unsound ventures.

Thus, where the chief preoccupation since the war had been with the danger of deflation, the first postwar restraints were now laid upon the economy. Even so, they were mild and selective. The measures which had been instituted in the foreign trade sector of the economy — (a) and (b) above — sought to relieve the consequences of the sharp dichotomy which had developed in our balance of payments situation, wherein the historical triangular settlements pattern had been replaced by virtually separate dollar and non-dollar accounts. Other specific measures, not restrictive in nature, accompanied these actions: easing of export controls on items which could find a market in the United States; lifting of price controls, as early as mid-1947, on copper, lead and zinc; promotion of imports from the United Kingdom.

The fiscal policy measure—that is, the deflationary budget surplus—could not, of course be deemed selective but in the particular circumstances of the time, this was its effect. Monetary policy, on the other hand, continued in this period to be essentially stimulating: the bond market was supported and there was a disinclination to tighten the commercial banks' reserve positions. Thus fiscal and monetary policies exerted opposite pressures. But the results, by good fortune, were happy. As shown by Chart 2, consumer spending in 1948 actually declined slightly from its 1947 level (in volume terms) while new investment continued to expand, albeit more slowly. The volume of exports rose sharply in 1948, while the volume of imports declined. One can only conclude that the policies coincided with — rather than operated against — the basic economic trends. Consumers evidently were ready for a pause, their deferred demands now met. Thus the expansionary monetary policy had little effect in this sector while the import restrictions (which were aimed at consumer goods) and the budget surplus took startling effect. In the investment field, with prices rising and export demand buoyant,¹² confidence remained high. In this sphere, the easy money policy was effective and capital expenditures continued to expand. The trend shows up as follows:

	G.N.P.	New investment	% New investment/G.N.P.
1946	12,026	1,703	14.2
1947	13,768	2,488	18.1
1948	15,613	3,175	20.3

Resource Development

So far, little has been said of the role of resource development in Canadian economic expansion. The fact is, of course, that the war had stimulated

¹²In this connection, initiation of the Economic Co-operation Administration by the United States, with its offshore purchase provisions, was of major assistance. In 1948, purchases in Canada under ECA were authorized to the amount of \$592 million. Apart from stimulating exports, the inflow of funds made an important contribution to our exchange reserves. It was possible to relax import controls by the end of 1948.

manufacturing activity in Canada. The needs of war had meant a change in the end-uses for our resources and to a degree domestic demand had replaced lost foreign demand but it had not meant an expansion in our resource industries as such.¹³ Similarly, during the initial postwar years, while there was little net growth, the main features were the reconversion of Canadian manufacturing to civilian production and the fact that it was possible to retain, in the aggregate, most of the war-expanded capacity to meet the high level of demand in Canada.

Yet for one group of industries the postwar period up to 1948 was one of quite vigorous growth: a group which might be termed the major resource export industries, comprising wood and wood products and the minerals group. In general, output of these commodities had shown little or no expansion during the war. The index of production for metal mining, for example, was lower in 1944 than in 1939 (see footnote 4, page 14), although it had risen during the first two years of the war. The output of woodpulp — an indicator of the volume of pulp and paper output — had been 5.14 million tons in 1937; it reached 5.72 million tons in 1941 but fell again to 5.27 million tons in 1944 as production was pinched off by power and labour shortages. Lumber production had expanded by 1941 almost 25% over its prewar (1937) peak, but by 1944 was up only about 13% over 1937. Asbestos and gypsum production followed essentially the same pattern, expanding to new highs by 1941 then falling off through the remainder of the war. The pattern for primary aluminum varied only in degree and timing: production expanded very rapidly through to 1943, then declined sharply through to 1946.

Thus, the end of the war found the resource export industries operating in the aggregate at below capacity, or, at any rate, below levels of output previously achieved. These industries now expanded rapidly. Looking at exports and comparing 1945 and 1948, while total exports declined by roughly \$150 million, resource exports rose by about \$540 million and their proportion of commodity exports rose from 24.9% to 44.7%.¹⁴ It should be mentioned that, at this latter proportion, these industries had done no more than return to their prewar position in our export trade but the important point is — and this is brought out in Table 8 — that by 1948 this had entailed a considerable expansion in output.

By 1948, the United States economy had completed its postwar adjustment and now the term readjustment was being applied to its mild 1948-49

¹³This is a very general, and relative, statement. It will be recalled that some segments of agriculture expanded considerably as did the output of certain types of minerals of strategic importance.

¹⁴It is true, of course, that exports in 1945 still contained a sizable quantity of goods directly associated with war requirements. Between 1945 and 1946, total exports fell by some \$900 million while resource exports rose by about \$80 million. Thus, in these two years alone, resource exports rose as a proportion of total exports from 24.9% to 38.1%.

Table 8

RESOURCE EXPORT INDUSTRY PRODUCTION, SELECTED YEARS

	Woodpulp 000 tons	Lumber M. ft. B.M.	Asbestos 000 tons	Crude gypsum 000 tons	Metal Mining 1935-39=100	Primary aluminum 000 tons
Prewar (1935-39) peak	5,141	4,005	410	1,422	118.6	82.8
War peak (1941)	5,721	4,941	478	1,593	129.7	495.8 ^a
1944	5,271	4,512	419	596	94.9	452.1
1946	6,615	5,083	558	1,811	79.9	193.4
1948	7,675	5,909	717	3,217	99.4	367.1

^a1943.

SOURCES: Woodpulp and lumber data—D.B.S. Others—Mineral Resources Division, Mines Branch, Department of Mines and Technical Surveys.

recession. Its rapidly rising price trends stabilized in the first half of 1948 and turned down in later months. With these developments, United States demand for our exports levelled off and the price pressures which had been exerted on Canada by rising United States prices eased.

Thus what we have called the years of adjustment drew to a close. By mid-1948, prices in Canada had also stabilized. Industrial production levelled off briefly during the first half of 1949 and the volume of our exports declined slightly toward the year end. Consumer expenditures reached a new peak (in constant dollars) in 1949, at a level almost 4% over 1948 but only some 2% over 1947. With reconstruction ended and early postwar expansion projects now in operation, this level of demand could be met. An important part of Canadian overseas exports was still being financed, but now by the United States under ECA rather than by Canadian government credits. For the period as a whole deflation had not developed and while there had been fairly sharp inflation for the two years beginning mid-1946 it had been contained before a critical point was reached — no doubt, in part by vigorous policy measures but more effectively, it would seem, by the fortuitous course of events in 1948.

Growth and Development in the Period

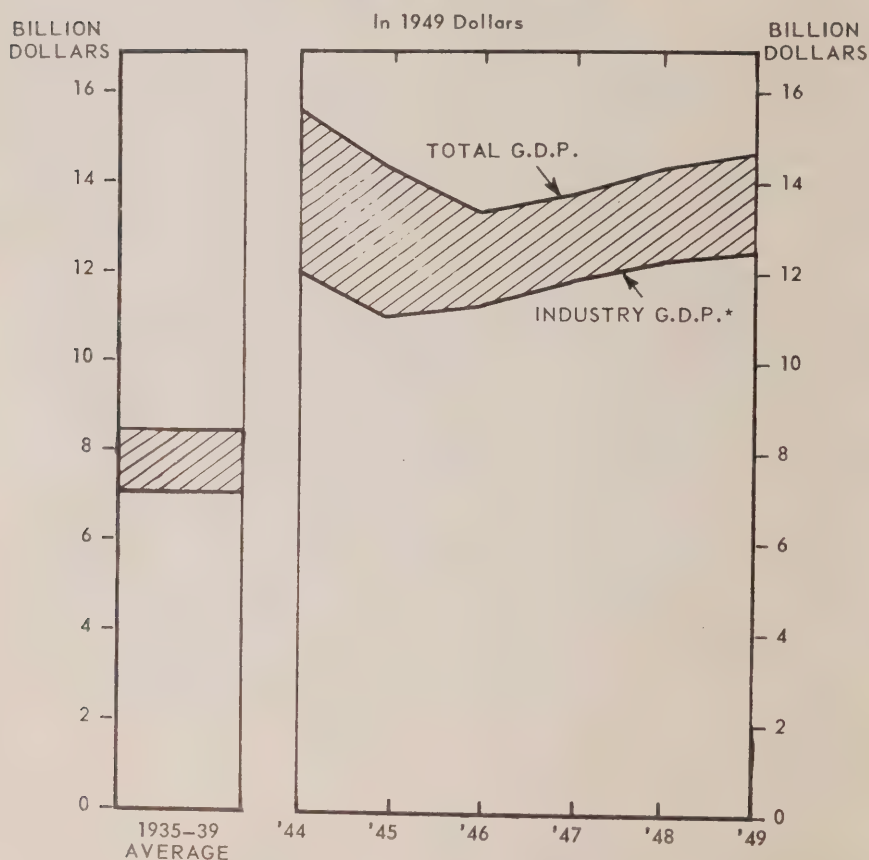
This has been a review at close hand of economic events in the first postwar period. It is opportune here, however, to pause — as, indeed, the economy paused — to appraise the over-all growth and development which had occurred in the period.

Evidence of aggregate growth and development is shown in Chart 3 which affords comparison of 1945-49 Gross Domestic Product data with the levels of 1935-39 (average) and the wartime peak of 1944. The total

volume of domestic output in the economy was, on the average for 1945-49, almost two-thirds greater than the prewar volume, and by 1949 was over 70% greater. For total G.D.P., the wartime peak had not yet been matched but this was due to the shrinkage of the government sector. In the so-called industry sector — embracing the output of both agriculture and business — new record levels had been achieved in both 1948 and 1949.

CHART 3

**GROSS DOMESTIC PRODUCT, 1935-39 AVERAGE
AND 1944-49 BY YEARS**



*Industry G.D.P. is total G.D.P., less Government and Community Service.

SOURCE: Royal Commission Study: *Output, Labour and Capital in the Canadian Economy*, Chap. 5.

A similar indication of expansion had occurred in civilian employment which had risen from about 4.44 million in 1944 to almost 4.95 million in 1949. Accompanying this aggregative increase, the distribution of

manpower in terms of main occupational groups had also changed. Data are shown in Table 9 with prewar figures added for comparative purposes.

Table 9

MANPOWER DISTRIBUTION BY MAIN GROUPS — PREWAR
(1935-39) vs. 1949
(in thousands and percentages)

	1935-39 Average		1944		1949	
	Number	Percent	Number	Percent	Number	Percent
Agriculture	1,255	32.3	1,067	20.4	1,079	21.6
Resource industries	218	5.6	190	3.6	221	4.4
Manufacturing	706	18.2	1,325	25.4	1,311	26.3
Distribution and services	1,386	35.6	1,469	28.1	1,788	35.8
Government ^a	317	8.2	384	7.4	549	11.0
<hr/>						
Civilian employment	3,882	99.9	4,435	84.9	4,948	99.2
Armed forces	6	.1	787	15.1	42	.8
<hr/>						
Total	3,888	100.0	5,222	100.0	4,990	100.0

^aIncludes armed forces.

SOURCE: Wm. C. Hood and Anthony Scott: *Output, Labour and Capital in the Canadian Economy*, Chap. 5, Ottawa, 1957.

Several points may be noted briefly. The 1949 manpower distribution in agriculture, resource industries and manufacturing was virtually unchanged numerically from 1944 although the composition and nature of production was quite different. Here again is evidence that we had retained our wartime gain in industrialization. The largest increase, relative and numerical, had occurred in the distribution and services sector. This was attributable primarily to the increase in employment in the construction industry in which the work force doubled to 320,000 in 1949 reflecting activity in housing and industrial plant expansion. A similar increase, though smaller relatively, occurred in the retail and wholesale trade industries where employment rose from 492,000 to 652,000 in response to the greatly expanded volume of domestic trade. The increase in government employees is also notable. This was, however, no more than one tangible aspect of the increased role of government in economic affairs — the result, in part, of the list of policy measures instituted in the period.

Evidence of growing industrial diversification was outlined by the Department of Reconstruction and Supply in its report on the operation of special depreciation provisions which had been introduced in November,

1944, with a view to expediting postwar reconversion and modernization.¹⁵

The report states:

"A large measure of industrial diversification is accompanying the process of conversion, modernization and expansion of Canadian factories. Over 200 new products formerly imported are now being produced in Canada. These include various types of heavy machinery and equipment . . . new types of textile products . . . wood and paper products . . . chemical and allied products . . . lacquers and paints . . . light machinery and equipment, tools . . ." and so on.

Against this background, the trends of imports and exports relative to domestic consumption and investment trends are of interest:

<i>Constant 1949 dollars — millions</i>	<i>1935-39 avg.</i>	<i>1949</i>	<i>Percent increase</i>
Consumer expenditures	6035	10,963	82
Capital expenditures ^a	1000	2,968	197
Imports	2491	3,837	54
Exports	2786	4,011	44

^aPer *National Accounts*, excluding inventories but including housing.

Gains in exports and imports were proportionately much smaller than those for the two major domestic consumption sectors. These rather crude measures should not be taken too literally,¹⁶ but the wide differences in the two sets of increases do suggest that to an increasing degree domestic consumption was being satisfied from domestic production. It will be recalled that exports had expanded greatly during the war and that much of the increase had been due to the expansion of exports of manufactured goods. Most of this volume had disappeared as the war ended. The above data, coupled with the fact that a high level of economic activity was being maintained, suggest that Canadian manufacturers had been able, in converting to the production of civilian goods, to find a market in Canada for a high proportion of their output.

Finally, despite the decline in aggregate exports, we have seen that for an important group of industries exports rose significantly, resulting in production increases which brought output to new record levels.

¹⁵*Encouragement to Industrial Expansion in Canada*, Department of Reconstruction and Supply, Ottawa, 1948. The provisions were operative from November, 1944 to March, 1947, applicable to approved projects which could be completed by March, 1949. The report points out that investment projects totalling \$1.4 billion were approved under the provisions.

¹⁶Exports, for example, had declined in 1949 while consumption and investments had risen. Had 1948 been used rather than 1949 the percentage increases in the same order as shown in the table would have been: 75, 183, 51 and 50.

Dynamic Factors in the Period 1944-49

The two periods thus far discussed — the war years and the years 1944-49 — were periods of growth and development in Canada. Within this context, the outstanding characteristic for the war period was the growth of manufacturing activity. The causal factor underlying the growth is equally obvious: simply the demands generated in the course of waging a total war.

For the first postwar period, the chief characteristic was readjustment and this gave a slightly different meaning to growth. The economy did not simply go on expanding after the war. However slight, there was a contraction for a time and in the private sector of the economy, while the war peak was exceeded by the end of the period, the growth here — the net growth — was small. The major achievement was the conversion and at the same time retention of the expanded economy, particularly its manufacturing capacity. Now, what were the factors underlying this achievement?

The answer lies, first, with consumer demand. The existence of a huge backlog of demand, coupled with accumulated reserves to make these demands effective, was a major determinant of growth and development in this period. Yet this statement does not end the matter. One might have expected, if the accumulated reserves had played a major direct role in stimulating consumption, that liquid balances would have declined throughout this period. In the immediate postwar years, of course, goods were scarce and the level of consumer spending was thereby restricted. Also, the operation of price controls checked any wholesale erosion of savings through price inflation. But liquid assets held by the general public appear to have remained surprisingly stable throughout the whole of the 1945-49 period. The Bank of Canada assembles and reports data on certain liquid assets held by the general public, including bank deposits and government security holdings and these may be taken as indicative of the trend of total liquid asset holdings. At the end of December, 1945, these balances totalled \$17.2 billion. They reached \$18 billion by the end of 1946 and thereafter, to the end of 1949, fluctuated in the range of \$17.6 billion to \$18.1 billion. This suggests that perhaps the major contribution which accumulated savings made in this period was to security rather than spending; that is, the fact of large liquid reserves widely held by the general public made possible a high level of spending out of current income.¹⁷

This is a rather tenuous argument which, for lack of data, must go largely unsupported. It does not, however, say that the composition of savings did

¹⁷Augmented, it should be added, by an increasing use of credit. But access to credit was also facilitated by the existence of high savings reserves (i.e. which performed a collateral function.) See Bank of Canada, *Statistical Summary, Financial Supplement, 1954*, for the record of changes in liabilities through these years.

not change. For example, through 1946-49 there was a net reduction of some \$1.4 billion in holdings of government market securities but in the same period, inactive bank deposits increased by over \$1.2 billion and life insurance payments by almost \$0.8 billion. Nor does it say that savings—at least in the individual sense—were not used. But it does argue that *because of the rising trend and the distribution of income*, savings were not used up but were in effect transferred, largely, as between individuals.

The italicized phrase is the important one, but it must be true that if accumulated savings were not reduced, the high level of consumer spending must have been supported from current income. Thus, in speaking of the causes of growth, as these emanated from the consumption sector we have: war deferred demand; the existence of large and widely held savings which acted to stimulate the propensity to consume; the maintenance of high levels of income and finally, a relatively broad dispersion of incomes within the over-all income range. Two further factors—the rapid rates of population increase and family formation—were also prominent through these years but, as is discussed in a later note on population, while they reinforced and stimulated the growth, they occurred initially in response to the growth situation.

This interpretation of causal factors gains some support from an additional feature of consumption in this period, namely, that although war deferred demand was presumed to have been met by 1948, consumption fell only fractionally in that year and rose again in 1949. Had the high level of consumption rested on deferred demand and liquid reserves, it might have been expected to fall back more sharply. The reason it did not, it is suggested, lies in the high levels of current income and its distribution. The role of the accumulated reserves was not unimportant. Had it not existed, quite probably consumption would have been much less vigorous, given the deflation consciousness of the first part of this postwar period. As it was, however, it appears to have been largely held as a reserve and in this capacity, in effect, it freed current income for consumption.

It might be inferred from the foregoing that the savings referred to were only in the hands of individuals. Such is not the case. Corporations, too, accumulated liquid balances during the war. And, in a parallel way, deferred demands—for repairs and maintenance, and also reconversion—stimulated investment after the war.¹⁸ Yet, for the most part, this investment was not an independent cause of growth; it did not take place simply because liquid resources existed to pay for it. It took place because of the relationship between demand and supply. There was an obvious inadequacy of productive facilities to meet the extreme buoyancy of demand. Once under way, investment made its contribution to employment and income; it became an

¹⁸Mention was made earlier of special depreciation provisions aimed at assisting reconversion. Since, in effect, this increased the expected rate of return on investment, it undoubtedly induced expansion at the margin.

integral part of the growth process generating demand in its own right. But it was induced initially by the pressure of consumer requirements.

To this line of reasoning, which argues that the basic dynamic growth factor in the first postwar period was the extraordinary vigour of consumer demand, there is one further qualification. We have noted the growth of the resource export industries group and reference was also made to the increase of \$540 million in resource industry exports between 1945 and 1948. The United States alone accounted for about \$510 million of this increase. Although the United States economy had not—in either 1948 or 1949—matched its wartime production peak, consumption and investment were expanding rapidly, as they were in Canada. In these generally buoyant economic conditions, the effect of high level United States demands for our export goods was very marked. This was an additional factor which stimulated Canadian economic growth and development in this period.

THE SECOND POSTWAR PERIOD — 1950 TO DATE

FOR THE second postwar period, it is possible to deal much more directly with growth and development than was the case in the previous two periods. The period started from a position of full employment, and there is not, therefore, the complication of unemployed resources such as existed prewar. For all practical purposes, the distinction made earlier as between expansion and growth and development is unnecessary; the terms become the same. This is so, too, because virtually without interruption the economic trends since 1950 have pointed upward for Canada, unlike the diverse trends of 1945-49.

Nevertheless, the period starts from a position of pause, though, as one now looks back, it was a pause of an extraordinarily busy kind. Already, by 1949, there had been a reappraisal by the Western powers of the international political situation and Canadian government expenditures on defence were rising. Secondly, although the 1948-49 recession in the United States had weakened our export trade with that country¹ and had contributed to the slight easing of economic activity felt in Canada, our activity was largely sustained by the high level of capital formation. Thus such hesitation as we felt in Canada was slight indeed and activity was maintained at a very high level.

Onto this situation there was superimposed in June, 1950, the additional economic stimulation associated with the Korean war. The stimulation was felt in Canada in three ways: an increase in consumer spending; a major step-up in defence outlays and an upsurge in external demand for our exports, particularly our industrial material exports.

The first of these had no great impact effect on economic growth. Consumer spending in Canada had been very high. In mid-1950 it rose in a

¹In current dollars, and on a calendar year basis, exports of Canadian produce to the United States actually rose fractionally from \$1,500 million in 1948 to \$1,503 million in 1949. In 1947, however, exports to the United States had totalled only \$1,034 million and in 1950, a renewed rapid uptrend was reflected in the total of \$2,021 million which was achieved. Secondly, adjusting for slightly higher prices in 1949 indicates that export *volume* fell slightly in that year, the adjusted figure being roughly \$1,450 million (versus \$1,500 million in 1948).

wave—two waves actually, for there was a second one at the year end—to fill out all available capacity, deplete inventories in many lines, induce a rapid expansion in imports and, reflecting these pressures, bring about a renewed upturn in prices. But the flurries were short-lived. As the limited nature of the war became apparent or, perhaps one should say, as the probability of its being contained appeared to increase, the scare-buying element subsided. In 1949, consumer expenditure (in constant dollars) totalled \$10.96 billion; it rose in 1950 to \$11.65 billion, an increase of 6.2%. But in 1951, although incomes continued to rise, spending eased off to \$11.57 billion².

Expenditures on defence, the second item referred to above, played a somewhat different role from that of consumer spending, its impact being much sharper. In 1949, expenditures on national defence totalled about \$269 million, a figure which was to increase progressively each year to almost \$2 billion in 1953 and now appears likely to continue indefinitely in the range of \$1.7 billion to \$1.9 billion annually.

Perhaps the best way to view the expansion effect of the defence programme is to consider it as an industry in itself—one whose output in value, as measured by the expenditures data just cited, increased more than seven-fold between 1949 and 1953; moreover, it is an industry which was expanded in the three-year period following the Korean outbreak by the addition, to quote the official handbook for 1954,³ “of at least twenty new factories . . . some making products entirely new to Canada, such as radar sets, jet engines, aircraft instruments and marine propulsion equipment.” The same source also notes, referring to the operation of these new units at that time (1953): “Today they provide employment for over 30,000 Canadians.” There were also secondary effects: to support this industry, it has been necessary to develop or expand feeder industries producing the specialized material and equipment which it requires. It is important to note that this industry was imposed on the economy from without and was thus an independent or autonomous cause of expansion in Canada. In 1949, the national defence industry accounted for roughly 1.5% of the national product while by 1953 the proportion had risen to over 8%. What is relevant is that this increase did not as, in the war period, cut into the civilian economy. For a time, there was a need to divert some materials from civilian use but, by 1953, both civilian and defence requirements were being met. The economy had expanded to accommodate this major new source of demand.

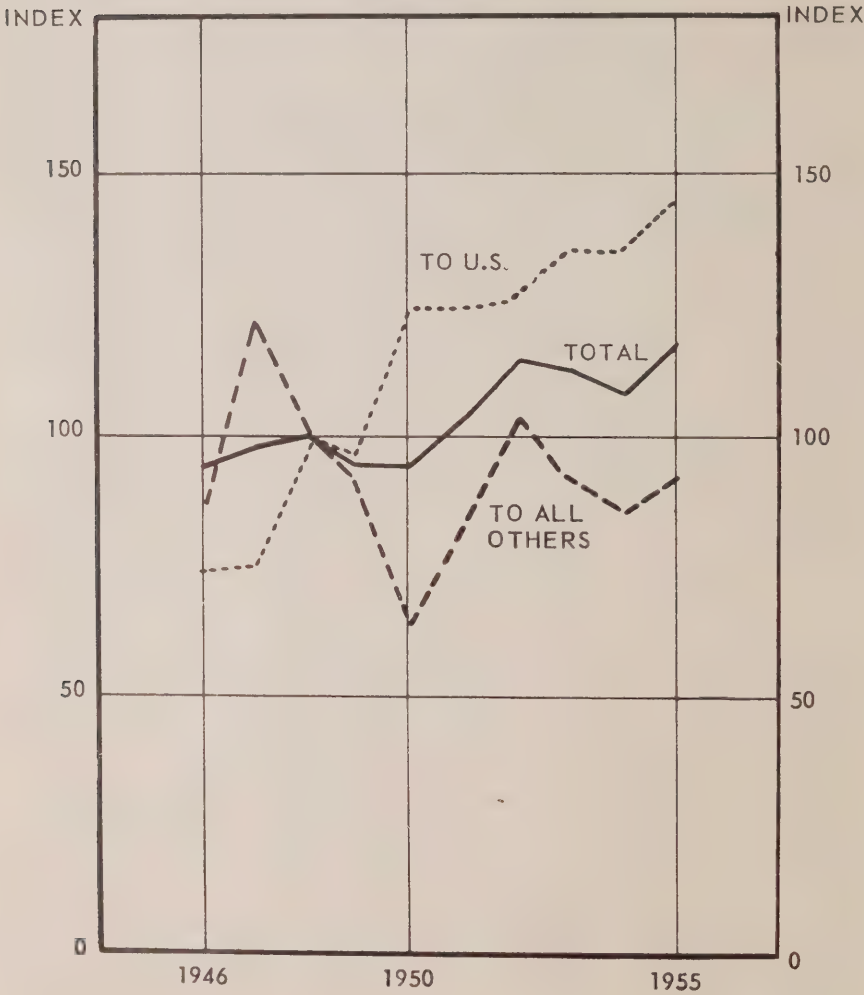
The defence buildup which began in 1949-50 was not, of course, peculiar to Canada but was international in scope and in this broader picture, the United States has occupied a key role. As in Canada, the

²It should be emphasized that the reference here is the *short-term impact*, of the Korean war as it affected consumer spending. Basically, however, the role of consumer spending as a dynamic growth factor, first indicated in the preceding chapter, continued through this period. This is discussed again below.

³*Canada 1954*, The Official Handbook of Present Conditions and Recent Progress, Ottawa, January, 1954.

United States defence programme had mushroomed into a major economic factor: where, at their low point in 1947, United States national expenditures had accounted for about 6% of national production, they rose to over 14% of a much larger product in 1953. More than this, however, the United States in this period perceived and accepted its position of leadership in the Western Alliance. Between 1949 and 1954, some \$30 billion in grants and loans flowed from the United States to its allies overseas.

CHART 4
INDEXES OF PHYSICAL VOLUME OF EXPORTS, 1946-55
TOTAL, TO U.S. AND TO ALL OTHERS
1948=100



SOURCE: *Trade of Canada*, D.B.S. Ottawa.

Canada benefited directly and indirectly from these United States expenditures. As an exporter of agricultural and industrial materials, we benefited directly from augmented external demand associated with defence requirements and indirectly to the extent that United States foreign aid assisted economic rehabilitation and development overseas, leading in turn to expanded trade with the overseas countries.

The annual physical volume of our exports from 1946 on is shown in Chart 4. It will be noted that, while the over-all volume showed little change between 1946 and 1950, this trend was made up of opposite movements in our trade with the United States and with all other countries. After 1950, trade with all others rose sharply, producing a sharp over-all increase. Though overseas trade declined again between 1952 and 1954, the aggregate volume in 1955 stood 26.6% above 1950.

It is, of course, an overemphasis of the importance of the cold war defence buildup to suggest that it alone accounted for the expansion of world trade and specifically, for the rapid increase in our own exports. It was an extremely important factor but there had been since the end of World War II rapid economic expansion in the United States and also general recovery and expansion overseas as the countries which had suffered severe wartime economic losses and disruption slowly regained strength. Up to 1950, however, this improvement had not been reflected in our overseas exports. For the overseas countries exchange difficulties had persisted, severely limiting their ability to purchase dollar imports. This situation was dramatically reversed in 1951. The series of wrenching trade and exchange adjustments had brought our own overseas exports to a postwar low in 1950. Now the corner was turned. Building on a sounder base and assisted by an expanded flow of United States dollars, the overseas countries were able to break through the exchange barrier which had confronted them seemingly at every turn. Coupled with an upsurge in United States demand, the effect was reflected in a sharp upturn in our exports. These trends are brought out in Table 10.

Table 10

**EXPORTS FROM CANADA TO THE U.S. AND
ALL OTHER COUNTRIES, 1947-52**
(in millions of dollars)

	Total exports	Exports to U.S.	Overseas exports
1947	2,812	1,057	1,755
1948	3,110	1,522	1,588
1949	3,022	1,524	1,498
1950	3,157	2,050	1,107
1951	3,963	2,334	1,629
1952	4,356	2,349	2,007

SOURCE: *Trade of Canada*, 1954, Vol. 1, D.B.S., Ottawa.

Superficially, it would appear that Canada in 1950-52 was repeating its wartime performance when perhaps its principal contribution had been in the sphere of material supplies. But this time there were major differences of degree, urgency and kind. Free world defences were now being organized for the long pull. The economic consequences of rearmament had to be weighed where they had been subordinate to military aims in World War II. More than this, the cold war was in its nature as much economic as military. In the new circumstances, it was at least equally as important that the economic strength of the free world be maintained and expanded as that its military strength be built up. This meant on the one hand that defence materials took on a very broad meaning since civilian as well as purely defence needs were to be met. Secondly, it meant that Canada would be called on to perform its historical role in the export field, predominantly exporting raw materials and primary manufactures. The export demand pressures which began to be built up in 1950 were thus concentrated mainly on Canada's resource export industries. Between 1949 and 1952, for example, exports of domestic produce rose by 44% in current dollars; resource exports rose by 60% and their proportion of total exports increased from 45% to 50%.

Briefly, what had happened between 1950 and 1952 in the free world economy was this. Since the end of World War II considerable expansion had occurred in North America. In Europe, where the physical damage of war had been concentrated, the lost ground had been made up and the stage was now set for expansion and growth. Elsewhere, in varying degree, there had also been expansion: in more and more of the underdeveloped countries the process of industrialization was started; in Australia and New Zealand the trends were much the same as those in Canada; Japan was re-emerging as an industrial power; and so on. What was deceptive, perhaps, in the mere statistical measurement of these developments was that they did not stand out when set against the sharp wartime peaks. But compared with prewar there had been a marked expansion.⁴ And, though there was little apparent concern for the fact, pressure on available supplies of industrial raw materials was building up.

The outbreak of the Korean war and the intervention of China at the end of 1950 greatly increased this pressure and, additionally, brought a sudden awareness of it. This is seen, for example, in the formation of the International Materials Conference which convened in Washington in February, 1951. Reporting on its first year of operations, the IMC summarized the circumstances which fostered its origin as follows:⁵

⁴The United Nations *Statistical Yearbook, 1955* shows world industrial production in 1950 to be 33% over 1937. The Communist bloc nations are not included in the index.

⁵*International Materials Conference—Report on Operations, 1951-1952*, Washington, D.C. Twenty-eight nations participated in IMC. They represented between 80% and 90% of free world production and consumption of the commodities under consideration.

"The impact of the Korean War on requirements of essential materials for defence production and military uses was acutely felt throughout the Free World. In order to meet the pressing problems of the defence programs and essential civilian needs, it was generally recognized that international action was needed for the co-ordination of the distribution of scarce materials."

The function of IMC was to study the free world supply and demand situation for a number of strategic commodities and to make recommendations to its member governments as to courses of action to alleviate shortages. The list of commodities studied is of interest:

Copper	Cobalt
Lead	Woodpulp
Zinc	Newsprint
Cotton	Sulphur
Cotton linters	Tungsten
Manganese	Molybdenum
Nickel	Wool

Canada was a major producer of six of these commodities: copper, lead, zinc, nickel, woodpulp and newsprint.

Dealing first with the actual physical growth trends in the use of these important materials, Table 11 shows world production data for all but cobalt and cotton linters for the years 1937, 1950 and 1953.

Table 11

WORLD PRODUCTION OF INDUSTRIAL MATERIALS

Commodity	Unit	1937	1950	Percent rise 1950 vs. 1937	1950 to 1953 increase as % of 1937 total	
					1953	
Copper	000 tons	2,564	3,090	+ 20.5	3,320	+ 9.0
Lead	000 tons	1,697	1,825	+ 7.5	1,960	+ 8.0
Zinc	000 tons	1,636	2,035	+ 24.4	2,340	+ 18.6
Cotton	million bales	37	28	- 24.3	37	—
Manganese ore	000 tons	1,510	1,720	+ 13.9	2,830	+ 73.5
Nickel	000 tons	115	140	+ 21.7	190	+ 43.5
Woodpulp	000 tons	22,600	32,100	+ 42.0	35,600	+ 15.5
Newsprint	000 tons	7,910	8,590	+ 8.6	9,630	+ 13.1
Tungsten	000 tons	12	11	- 8.3	27	+ 125.0
Wool	million lbs.	3,790	4,010	+ 5.8	4,356	+ 9.0
Sulphur	000 tons	3,420	5,670	+ 65.8	5,800	+ 3.8
Molybdenum	000 tons	15	14	- 6.3	29	+ 93.3

SOURCE: *Twenty-Fourth Annual Report, Bank for International Settlement, Basle, Switzerland, June, 1954. Statistical Yearbook, 1955. United Nations, New York.*

The table brings out the increases in world production between 1937 and 1950 which occurred in most of these commodities but, with the single

exception of sulphur, it is the sudden accelerations in production between 1950 and 1953 which stand out.⁶

The world economic and political trends which took shape about 1950 partly as a result of the Korean war and defence buildup and partly as a result of world economic recovery and expansion have continued without important change up to the present. These trends have been a powerful source of stimulation to Canada's resource export industries and, through them, to the economy as a whole. The early postwar expansion of the export resource industries was shown in Table 8; their continued advance to date is shown in Table 12.

Table 12

RESOURCE EXPORT INDUSTRY PRODUCTION, 1950-55

	Woodpulp (000 tons)	Lumber (M.ft.B.M.)	Asbestos (000 tons)	Crude gypsum (000 tons)	Metallic mining (1935-39=100)	Primary aluminum (000 tons)
1948	7,675	5,909	716.8	3,216.8	99.4	367.1
1950	8,473	6,554	875.3	3,666.3	111.0	396.9
1951	9,315	6,949	973.2	3,802.7	113.5	447.1
1952	8,968	6,808	929.3	3,590.8	116.5	499.8
1953	9,077	7,306	911.2	3,841.5	114.1	548.4
1954	9,673	7,244 ^a	924.1	3,950.4	124.8	560.9
1955	10,146	7,920 ^a	1,055.3	—	138.0	584.2

^aEstimated.

SOURCE: D.B.S. and Mineral Resources Division, Mines Branch, Department of Mines and Technical Surveys.

In addition to the physical growth in the resource export sphere, the international political and economic developments since 1950 had another less measurable but scarcely less stimulating effect on Canadian economic development. Mention has been made of the sudden concern evidenced about 1950 about what might be called the state of the free world's raw material supplies and reserves. We saw this in the formation of the International Materials Conference. It is quite true, of course, that IMC was set up for what was conceived to be an emergency situation. The outbreak of the Korean war, coming on top of an expanding world economy, thrust on available industrial material supplies sudden demands which could not immediately be met. Because of absolute shortages and maldistribution of supply, raw material prices rose sharply threatening disruption and disorga-

⁶Cotton and wool production show changes which differ in pattern from the others, chiefly reflecting the effects of the new synthetic fibres. For tungsten and molybdenum the patterns are again at variance. Both show declines between 1937 and 1950 but very rapid gains in the 1950-53 period. These patterns are attributable to the special strategic uses for these metals.

nization to international commodity flows. The Conference's first function, as indicated by the distribution schemes which it evolved, was directed toward short-term relief. But it was also concerned with the development of new sources of supply of the scarce materials and this concern had longer-term implications.

Through 1951, as the scope of the Korean war and implications of defence commitments became clearer, demand pressure subsided and meantime supplies of the scarce materials increased. As a result, prices of these materials declined in 1951. Yet the free world had been given a scare: a potential vulnerability in regard to material supplies had been exposed and this produced its own effect. Again the two threads of economic expansion and defence preparedness run together and, against this background, concern now turned to the adequacy of the resource base to provide for both. Typical of the thinking, and its most comprehensive evidence, was the appearance of the study *Resources for Freedom* published by the United States government in June, 1952. In one of its early paragraphs the report states:⁷

"This report . . . has as its central task an examination of the adequacy of materials, chiefly industrial materials, to meet the needs of the free world in the years ahead. Even a casual assessment of these years would show many causes for concern. In area after area the same pattern seems discernible: soaring demands, shrinking resources, the consequent pressure toward rising real costs, the risk of wartime shortages, the ultimate threat of an arrest or decline in the standard of living we cherish and hope to help others to attain."

Again, a citizens' conference entitled Mid-Century Conference on Resources for the Future which convened in Washington in December, 1953 is an example in the same vein. Developing from this have been a number of special studies into the outlook for individual materials. Reports of international agencies — the United Nations' UNESCO and the OEEC — began to probe into the future on a worldwide scale.

One result of these outlook appraisals has been to put a spotlight on Canada's resource wealth. Especially is this so because the most active interest in the new theme has occurred in the United States, as is natural in view of the tremendous consumption capacity and vigour of the United States economy. Canada — the United States' close neighbour and leading trading partner — had a rich estate in many of the key materials under appraisal. The United States economy had moved into a deficit position in

⁷*Resources for Freedom, Vol. I, Foundations for Growth and Security*. A report to the President by the President's Materials Policy Commission, June, 1952. United States Government Printing Office, Washington 1952.

many of these materials and the various projections suggested a continued movement in this direction.⁸

A second result, perhaps a twofold one, was to instill a firm confidence in the future of Canada and, more directly as a cause of economic expansion here, to induce large scale exploration and development in anticipation of a sustained growth in world demands for our resources. This was a tangible result of the new confidence.⁹ Thus, for example, the Quebec-Labrador iron ore and Kitimat aluminum projects were conceived on a scale far beyond immediately prospective market needs. In a word, world economic developments since 1950 have brought rising demands for Canada's industrial materials, and have thereby induced economic growth in Canada. Additionally, the economy has been stimulated in the exploration and development sphere, by the prospect of a *continuing* growth of world demand for these materials.

Consumption as a Dynamic Factor

Brief reference was made earlier to the consumer expenditure waves associated with the Korean outbreak. It was pointed out that these waves, in themselves, had little impact on economic growth: they were small in relation to total consumption and they were short-lived. But the basic trend of consumer spending in the 1949-55 period — and indeed since the war — is another matter. This has been a major dynamic factor underlying our growth and development.

In the earlier discussion of the 1944-49 period, consumer spending (or consumer demand) could be specifically identified as a proximate cause of Canadian growth and development: there had been a deferment of demand and an accumulation of savings during the war and these two factors set the stage for the surge of spending which came at the end of the war. This rather special set of circumstances appears to have started the process but the important point is that this surge never really ended. Table 13, showing prewar and 1946-55 consumer spending data in constant dollars on an aggregate and a per capita basis, illustrates the trends.

⁸The following comments are extracted from the *Bank of Nova Scotia Monthly Review* of February-March, 1953. This issue is entitled *Canada and the Paley Report*. "The broad conclusion of the Report is that U.S. consumption of materials, with the exception of foods, may be almost two-thirds greater in the decade of 1970 to 1980 than in 1950. It indicates that in that decade, represented for the sake of convenience by the year 1975, the United States will depend on imported supplies for about 20% of this much larger consumption as compared with 9% now. . . . The U.S. will become much more dependent on imports of copper, lead, zinc and iron ore. By 1975 even imports of oil will likely be substantial. No major change is anticipated in the almost complete reliance of the United States on imported supplies of nickel, asbestos or tin"

⁹A confidence in Canada's future felt not only by Canadians, as is seen in the flow of foreign capital into the resource development sector.

Table 13

**PERSONAL EXPENDITURE ON GOODS AND SERVICES,
AGGREGATE AND PER CAPITA IN CONSTANT (1949) DOLLARS**

	Aggregate	Index	Per capita	Index
Prewar	6,035	100	546	100
1946	10,266	170	835	153
1947	10,741	178	856	157
1948	10,555	175	823	151
1949	10,963	182	815	149
1950	11,645	193	849	156
1951	11,572	192	826	151
1952	12,237	203	848	155
1953	12,927	214	875	160
1954	13,375	222	880	161
1955	14,300	237	917	168

SOURCE: *Canadian Statistical Review*, 1955 Supplement and Monthly Issue of June, 1956 D.B.S., Ottawa.

On an aggregate basis consumer spending volume in 1946 was some 70% greater than the prewar (1935-39) average. It rose with minor interruptions in 1948 and 1951 to 137% above the prewar volume by 1955. On a per capita basis the rise was checked in 1947 and declined for two years thereafter as consumers satisfied their war deferred demands and reverted to a current — as opposed to current plus backlog — basis. The fairly rapid rise in 1950 reflects, of course, the buying waves of that year — in effect, a current plus anticipated buying basis — and this was followed by an adjustment in 1951. Since that time, buying, on a current basis, has expanded quite rapidly.¹⁰

It is suggested that these trends reflect an extraordinary vigour in consumer spending. This is undoubtedly associated with rising incomes but, more than this, the vigour or dynamism in consumption is not merely an effect of high incomes but equally is a cause. Given the initial postwar surge, the high level of real incomes and the broad distribution of incomes provided the basis for the new dynamism in consumption. These two factors gave a strength and breadth to market demand, creating mass markets on a scale in Canada not previously experienced. But arising out of these income characteristics and in addition to them, the new dynamism in the consumption sector appears to have other roots.

Specifically, it is rooted in the fact that the point at which consumption takes place has shifted and continues to shift. This is most apparent, for example, in the consumption of food. There is incorporated in food

¹⁰Since our interest is with the expansion of consumer spending as it has induced economic growth, the aggregate trend is also relevant.

The difference between the two is the increase due to the rising population suggesting that this has been an important element inducing growth. This aspect, however, is discussed subsequently.

purchases a growing service element which formerly was performed by the consumer — frozen foods and juices, prepared cereals and processed meats are cases in point. Secondly, particularly in the durable goods field, a changing approach to consumption has had pronounced stimulating effects. Prewar, for example, the typical new car buyer would keep his automobile for perhaps six or seven years where today he keeps it two or three years. It has been suggested that there is wastefulness in this type of consumption but in fact the automobile — to retain the example — is not then discarded. Actually, one effect of this more rapid rate of turnover (of both new and used cars) is to broaden car ownership. But the effect which is of interest here is that the demand for automobiles is increased as a result of this phenomenon. Quite apart from the fact that rising incomes permit more people to buy cars, the fact that more people of given incomes buy cars more often is an additional stimulant.

These aspects of consumer behaviour belong in a lengthier treatment of consumption theory than can be undertaken here. This theory is now the subject of a rapidly growing body of research and technical literature, itself testifying to an increasing awareness of a new dynamism in this sector. Where the foregoing sets down only a few of its facets in summary form, the theory itself probes deeper into the socio-economic attitudes of contemporary North American society, a key feature of which appears to be rooted in what one writer has called the "aspiration to consume."¹¹

We have referred to the dynamism of consumer spending as new. It broke upon the economy with almost explosive force at the end of World War II, though its impact was obscured or, at any rate, feared to be temporary in the confusion and uncertainty of the time. But consumer spending must be distinguished from consumer attitude. The latter was not new in 1946; there is no reason to suppose that the consumer of 1939 suddenly found himself in 1946 with a new attitude toward consumption or with a suddenly heightened aspiration to consume. One must assume that this was evolutionary, developing over time as a changing social attitude¹² which was held in check first by depressed economic conditions in the '30's then by the scarcity of goods during the war. The contribution of the war was to raise real incomes and to broaden the distribution of incomes. With a huge backlog of deferred demand and accumulated liquid reserves (which, as events turned out, were held as reserves) to trigger the mechanism, the sustained and then increasing level of incomes and a continually widening

¹¹*Trends in American Consumption and the Aspiration to Consume*, Ruth P. Mack. American Economic Review, Papers and Proceedings of the Sixty-eighth Annual Meeting of the American Economic Association, New York, December, 1955.

¹²The attitude developed earlier and has progressed further in the United States where, also, it has gained wider recognition as a dynamic or causal factor in the growth process.

It has also been suggested that modern advertising, which is essentially an American innovation, stimulates the desire for change and improvement, and is thus the dynamic element in this process. In a proximate sense, this may be true. But, basically, advertising plays its dynamic role only because it is attuned to consumer attitudes. It is extremely doubtful if a modern promotional campaign would have been productive 50 years ago.

dispersal of incomes made it possible for consumers to indulge their aspirations, i.e., the aspirations became effective in the form of consumer spending.

Relative Growth: Resource Export and General Manufacturing Industries

Earlier the stimulating effect of foreign demand on Canada's resource export industries was discussed. Table 14 compares the growth of these industries with the expansion of Canada's general manufacturing industries since the war. This latter group is primarily geared to meet domestic requirements and its trend of production reflects in the main the growth of the domestic market.¹³ As the table shows, the growth of the two broad industry groups has been very similar in size, taking the period as a whole. It should be recalled that the resource export industry groups started the postwar period from a relatively depressed position so that their first years of expansion contained elements of recovery. While the general manufacturing industries were the ones in which reconversion was heaviest, this was well along by 1946. A further qualification should be mentioned in connection with the years 1950-51. The data in Table 14 are in current dollars and for these years, under the pressure of extraordinary demand, resource export products rose relatively in price and this is reflected in the very rapid growth in value of output in these years. Data for 1954-55, when available, will show further growth in both groups with general manufacturing, however, very probably catching up. But, apart from year to year differences, the two groups have grown about equally.

Table 14

NET VALUE PRODUCT IN THE GENERAL MANUFACTURING AND RESOURCE EXPORT INDUSTRY GROUPS, 1946-53

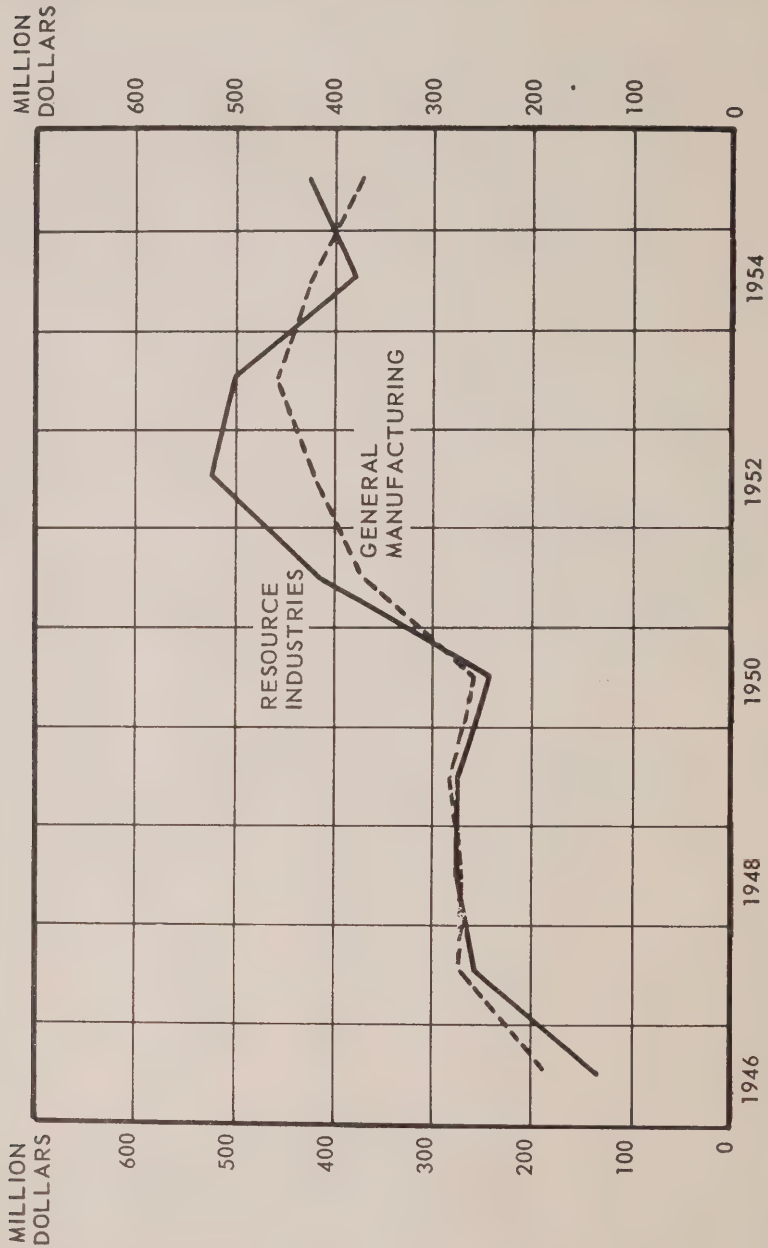
	General manufacturing		Resource-export	
	Million dollars	Indexes	Million dollars	Indexes
1946	2,649	100	1,228	100
1947	3,203	122	1,633	133
1948	3,685	140	1,923	157
1949	3,995	152	1,959	160
1950	4,388	167	2,265	184
1951	4,997	189	2,809	229
1952	5,533	210	2,764	225
1953	5,926	224	2,829	230

SOURCE: Department of Trade and Commerce.

¹³The group includes food, textiles, clothing, tobacco, leather, printing, consumer durables, defence goods, machinery and equipment, building materials, iron and steel. The industries in this group account for perhaps 15% of Canadian exports but, in fact, exports of general manufacturing industries had been declining in relation to production. In this respect, their production trend as shown in the table understates the expansion due to expanding domestic demand. Conversely, rising production in these industries has been due in part to increased demands upon them as suppliers to the export industries. These demands are a secondary effect of rising foreign demand and in this respect the gain overstates the growth of the domestic market apart from external stimuli.

CHART 5

CAPITAL EXPENDITURES, 1946-55
RESOURCE INDUSTRIES AND GENERAL MANUFACTURING



This is further borne out by Chart 5 showing capital expenditures by the two groups between 1946 and 1955.¹⁴ Although a more rapid rate of investment occurred in the resource industries immediately after Korea (for reasons stated earlier), the general similarity of the two investment trends is striking. Both industry groups have undergone rapid expansion — one in response to external demands, the other primarily in response to domestic demand. The resultant picture is one of growth and development on a broad front.

¹⁴In the chart, resource industries include chemical and allied products previously included in general manufacturing. Reclassification of this industry would not alter the result, however.

SUMMARY AND COMMENT

THE CAUSES or determinants of Canadian economic growth and development since 1939 as they have been set forth in preceding sections may now be recapitulated. They are:

(1) the demands directly generated by or associated with World War II;

(2) as a result or legacy of the war, the initial vigour of postwar domestic demand, deferred by necessity during the war, coupled with the accumulation of large liquid savings widely held by individuals (and business enterprises). These savings appear to have been held in the aggregate largely as a reserve, releasing current income for consumption;

(3) a new dynamism in consumer spending, identifiable as a strong aspiration to consume, given strength and breadth by rapidly rising incomes and the wide dispersion of incomes;

(4) the growth of external demand, notably after 1950, for Canadian resources and industrial materials; and

(5) an additional stimulation to Canadian expansion, particularly in the field of exploration and development, arising out of the prospects of sustained external defence needs and economic growth prospects.

While it is suggested that these have been causal factors underlying growth in the Canadian economy in the period here reviewed, it is readily admitted that the list is not exhaustive. To be complete, such a list (if it could be compiled at all) would be long and complex, ranging perhaps from an enumeration of basic, continuing social values which exert a steady expansionary pressure on the economy to some chance event which nudged the economy forward momentarily.

Even without the pretense of completeness, it would also have been possible to identify other important factors, organizing them into categories

or groups. For example, one group might contain such factors as stable political conditions and our endowment of natural resources. But these are perhaps better described as preconditions to growth, in the sense of providing the necessary situation in which growth can occur. Another group might list such factors as institutional arrangements (for example, the organization of our capital market and ready access to the more highly developed capital markets of the United States) or the quality and magnitude of our natural resources. Thus, in relation to present levels of development and utilization, the vastness of our resources may make the Canadian economy capable of a relatively rapid growth, particularly in relation to, say, the Western European economies. But while factors of this kind have been important, their influence has been one of facilitating growth or determining its rate. Finally, in a classification scheme such as this, the factors set forth at the outset of this section would make up a third group which might be called dynamic factors and which would be specifically applicable to the Canadian experience of the past 16 years.

It is this dynamic quality which distinguishes them. We have had a known abundance of natural resources and political stability throughout our history as a nation, and while our institutional framework has broadened and developed rapidly in recent times, it has been well developed by the contemporary standards of the times since, say, World War I. Yet we have not always enjoyed economic growth. We have lacked on occasion the dynamic factors by which growth is produced and sustained.

The factors which have here been identified as dynamic are in a very broad sense innovational; they ignited the growth process.¹ Within the process itself, these causal factors became interrelated and additionally, gave rise to a host of secondary factors. Two of the more important of these may be cited by way of example.

The Fuel and Power Industries

Canada's power resources are generally recognized as major national assets. As such they have been a basic precondition to the growth and development of the economy. Given the growth situation which prevailed essentially without interruption through the past 16 years and the nature of the growth and development which occurred — industrialization and increasing industrial complexity — it was inevitable that our power resources should become a part of that process and should make an important contribution to it. This is seen in the generally rising relative growth of

¹Standing between the original stimulation and the actual evidence of growth in terms of increased and more diversified production are a host of innovations in the technical (and more conventional) sense. Thus, spurred by war demands, whole new manufacturing techniques were introduced into the Canadian industrial economy, many of which were adapted to peacetime application.

these industries with respect to employment, output and capital expenditures in the postwar period. Data shown in Table 15 express each of these in terms of percentages of the industrial totals in each category.

Table 15

INDUSTRIAL EMPLOYMENT, NET VALUE PRODUCT AND CAPITAL EXPENDITURES IN FUEL AND POWER INDUSTRIES, 1946-55

(as percentages of industrial totals)

	Employment Percent	Net value product Percent	Capital expenditures Percent
1946	5.3	9.0	26.6
1947	—	7.8	27.4
1948	5.2	7.9	38.2
1949	—	8.6	43.6
1950	5.5	8.8	50.7
1951	5.2	8.8	43.1
1952	6.0	8.8	47.7
1953	6.0	9.6	47.2
1954	6.3	—	50.4
1955	—	—	53.4 ^a

^aEstimated.

SOURCE: Department of Trade and Commerce.

The expansion of this industry group, however, had an additional feature in this period, namely discovery and development of major oil and natural gas resources beginning with the discovery of the Leduc field in 1947. Illustrative of these developments as regards oil, proven reserves have risen from 70 million barrels in 1945 to about three billion barrels in 1955. Crude production, between 1946 and 1954, rose from 7.6 million barrels to 96.1 million barrels enabling domestic sources to meet 55% of Canadian requirements against 11% in 1946 and this despite an increase in these requirements of roughly 145%.² Though earlier in point of development, our natural gas resources appear destined for similar growth. Proven reserves have risen from less than one trillion cubic feet in 1946 to nearly 20 trillion cubic feet in 1955. Production and distribution have yet to match this growth but major projects are now underway in this field. For the two industries combined, capital expenditures have risen spectacularly. Taking all levels from exploration to marketing facilities, annual investment outlays have increased from \$20 million in 1945 to more than \$450 million in 1955.

Underlying these developments, as has been suggested, have been expanding industrial and consumer demands for petroleum products but

²Not all of this growth can be called clear gain. Domestic production of coal has tended to decline in recent years. To the extent that petroleum has displaced domestic coal, the petroleum production increase represents a transfer of activity. Coal production in Canada has fallen from a peak of 19.1 million tons in 1949 and 1950 to 14.6 million tons in 1955. For the most part, however, it is coal imports which have been displaced; from a peak of 30.9 million tons in 1948, imports fell to 18.7 million and 19.7 million tons in 1954 and 1955 respectively.

the growth of these industries had undeniably contributed to Canadian growth and development.

Population Growth

Two observations, one general and one specific to the Canadian experience, may be made at the outset regarding the population factor in economic growth. Population growth has long been acknowledged as a contributing factor in the growth process. Unlike the resources just discussed, however, an increasing population has not been regarded as a necessary precondition to growth. Secondly, the rate at which the population of Canada has risen in recent years has been as rapid as that during any period with the exception of some of the early periods of rapid colonization. And during these recent years, the Canadian economy has grown rapidly. These two features have obviously not coincided by accident, but it is suggested that the relatively rapid rate of population growth was initially an effect and not a cause of economic growth.

Historically there has been a direct or positive correlation between the trends of economic activity and of live births and immigration. One finds, for example, a relatively high level of births and a large inflow of immigrants during the late 1920's and again in the postwar years — both periods of prosperity and expanding economic activity. The reverse is true of the 1930's.

Table 16

POPULATION TRENDS BY HALF DECADES, 1921 TO DATE, EXCLUDING THE WAR YEARS

Year	Live births rate per thousand of population	Immigration thousands	Population annual average % growth in period
1921-25	27.4	499	1.7
1926-30	24.1	732	1.9
1931-35	21.5	86	1.2
1936-40	20.5	72	1.0
1946-50	27.4	430	2.0 ^a
1951-55	28.1	792	2.6

^aExcluding the increase in 1949 due to confederation with Newfoundland.

SOURCE: *Canada Year Book*, 1955, D.B.S.

It is true, of course, that the existence of these correlations does not establish the direction of cause, but there can be no doubt, in the case of births, that the rate rises with the expectation or achievement of better employment or improved income. The reverse proportion is scarcely rational. For immigration, other considerations enter the picture; the inflow

may be controlled as a matter of policy but labour requirements, which are a function of economic activity, will in all probability be weighed in the making of policy. And, for their part, immigrants will, as a rule, move in a direction which promises economic betterment and this prospect is increased where the movement is into a growing economy.³

In short, while economic growth is reinforced and stimulated by a rising population, there is much reason to believe that the prerequisite factor is the expanding economic environment.

These two factors, as has been mentioned, serve to underline the inter-relationships which develop in a growth situation. This point cannot be emphasized too strongly. At the outset of this paper it was mentioned that the causes of growth could be considered at two levels: in terms of the separate causal factors and, secondly, in terms of the internal dynamic process itself. For economic analysis only the first of these is available. But there are dangers in this shortcoming. There is the danger of undue emphasis on this or that factor: a risk of failing to recognize that although particular factors may from time to time exert a special force on the economy they quickly lose their identity in the maze of interactions which follow. Frequently, when it may appear that the forward thrust centres around an expanding sector or industry group, closer examination will reveal that in other areas of the economy, expansion — first stimulated by the original sector or industry group — has acquired a dynamism of its own and is sustaining growth. Something of this kind appears to have taken place in 1948 and 1949 when domestic and United States demand hesitated and the main strength was then found to lie in the capital investment sector.

Over the past few years there has been less likelihood of making the error of singling out a particular factor or sector: economic expansion has proceeded on a very broad front and no sector has stood out. And perhaps here lay the secret of much of Canada's growth. We have had in Canada the basic prerequisites for growth: land, capital and labour — the last of these, if not in abundance, relatively highly skilled. We have had a favourable geographical location and a tradition of political stability. Given these attributes, the economy was amenable to the dynamic factors which emerged. That it responded vigorously to these factors is perhaps due to the fluidity or flexibility which has come to be a characteristic of our economy. Growth would surely not have been as rapid had not the stimulants been so readily dispersed throughout the system: had we not had, for example, a broad income distribution pattern to disseminate the dynamic impulses and give them multiplicative force.

³During 1954, unemployment rose sharply in Canada and fears of a recession were expressed. Europe at the time was enjoying a high level of economic activity and it was reported that Canadian immigration teams were (temporarily) encountering difficulty in recruiting suitable immigrants.

Thus another prerequisite of growth or at any rate another determinant of the rate of growth is suggested. It lies in the economic environment. As is often the case, a rather commonplace saying goes straight to the crux of the matter: Canada has had a favourable climate for growth. This climate is defined by our social and economic attitudes. It is these that give rise to the aspiration to consume and more important make possible the attainment of aspirations.

APPENDICES

Appendix A

INDUSTRY STATISTICS

CANADIAN economic growth and development since 1939 has been examined in the main body of this study in terms of the principal economic aggregates or sectors. With the exception of a number of quite brief references, no attempt has been made to discuss growth at the industry level. To have done so would have blurred in a confusion of detail the purpose of the study, to identify the main forces underlying the growth which has occurred. Moreover, a number of studies prepared for the Commission do deal with individual industries and deal with them in a much more extensive and thorough manner than would be possible within the manageable compass of a single study.

For reference purposes, however, there follows statistical summaries of the growth experienced by a number of leading Canadian industries. Where possible the figures cover the period 1926 to date. Although this is a longer period than that reviewed in the study proper, the longer run of data gives a better appreciation of trends where the statistics alone are presented.

Table I

FOREST PRODUCTS: PULP, PAPER AND LUMBER
(pulp and paper: 000 tons; lumber: million f.b.m.)

Year	Newsprint	Other paper grades	Exports of woodpulp ^a	Lumber
1926	2,068	377	1,006	4,185
1927	2,290	386	879	4,098
1928	2,611	435	864	4,337
1929	2,984	472	831	4,742
1930	2,791	429	760	3,989
1931	2,516	384	623	2,498
1932	2,186	372	452	1,810
1933	2,282	397	609	1,958
1934	2,911	465	606	2,578
1935	3,083	515	662	2,973
1936	3,535	581	754	3,412
1937	3,998	671	871	4,006
1938	2,893	580	554	3,768
1939	3,175	674	706	3,977
1940	3,770	816	1,069	4,629
1941	3,771	1,005	1,412	4,941
1942	3,455	975	1,511	4,935
1943	3,219	920	1,556	4,364
1944	3,265	1,005	1,408	4,512
1945	3,592	1,036	1,435	4,514
1946	4,506	1,185	1,419	5,083
1947	4,820	1,301	1,699	5,878
1948	4,983	1,423	1,798	5,909
1949	5,176	1,353	1,557	5,915
1950	5,279	1,493	1,846	6,554
1951	5,516	1,664	2,243	6,949
1952	5,687	1,495	1,941	6,808
1953	5,721	1,621	1,950	7,306
1954	5,984	1,649	2,172	7,244
1955	6,191	1,804	2,366	7,920

^aCurrently, woodpulp exports make up 20% to 25% of total industry production. Virtually all of the balance is used in the production of newsprint and the other paper grades.

SOURCE: D.B.S.; Newsprint Association of Canada.

Table II

IRON, STEEL AND SELECTED PRODUCTS

Year	Iron ore ^a (000 tons)	Steel ingot (000 net tons)	Motor vehicles (000 units)
1926		834	205
1927		973	179
1928		1,333	242
1929		1,466	263
1930		1,070	153
1931		714	83
1932		367	61
1933		442	66
1934		826	117
1935		1,019	173
1936		1,211	162
1937		1,496	207
1938		1,236	166
1939	124	1,490	155
1940	415	2,178	223
1941	516	2,593	270
1942	545	2,959	228
1943	641	2,846	178
1944	553	2,874	158
1945	1,135	2,758	133
1946	1,549	2,251	171
1947	1,919	2,855	258
1948	1,337	3,088	264
1949	3,676	3,096	293
1950	3,605	3,298	390
1951	4,680	3,448	415
1952	5,270	3,577	434
1953	6,510	4,009	486
1954	7,362	3,114	352
1955	16,352	4,441	454

^aProducers' shipments.

SOURCE: D.B.S.

Table III

MANUFACTURING: PRODUCTION OF MAJOR APPLIANCES

(thousands of units)

Year	Mechanical refrigerators ^a	Washing machines	Radios	Television sets
1926			42.0	
1927		62.2	48.0	
1928		86.4	81.6	
1929		100.2	150.0	
1930	6.4	86.0	170.4	
1931	9.8	76.7	291.6	
1932	19.4	58.4	121.2	
1932	15.1	58.9	112.8	
1934	27.8	84.1	188.4	
1935	22.4	84.7	190.8	
1936	40.7	102.6	254.4	
1937	52.1	133.4	289.2	
1938	52.9	105.8	242.4	
1939	51.5	103.9	348.0	
1940	53.2	117.5	484.8	
1941	64.1	128.3	386.4	
1942	37.8	67.2	177.6	
1943	0.4	13.2	1.2	
1944	0.2	33.8	—	
1945	2.4	59.9	50.4	
1946	56.8	115.2	603.6	
1947	108.1	220.1	984.0	
1948	138.7	334.4	639.6	
1949	206.2	346.2	790.8	9.6
1950	341.6	301.1	820.8	32.4
1951	278.0	236.8	628.8	49.2
1952	236.9	248.0	486.0	126.0
1953	274.1	253.8	753.6	429.6
1954	236.0	215.3	457.2	596.4
1955	247.7	267.7	572.4	852.0

^aGas types are included as of 1952.

SOURCE: D.B.S.

Table IV

TOTAL ELECTRICITY GENERATED IN CANADA
(*millions of k.w.h.*)

Year	Central electric stations		Total	Industrial ^a generation	Total ^b Canada
	Hydro	Thermal			
1926	11,911	174	12,085	557	12,660
1927	14,346	203	14,549	810	15,377
1928	16,106	231	16,337	1,153	17,509
1929	17,680	280	17,960	1,324	19,306
1930	17,749	345	18,094	1,358	19,468
1931	16,025	306	16,331	1,276	17,620
1932	15,724	328	16,052	1,388	17,453
1933	17,006	333	17,339	1,348	18,697
1934	20,817	380	21,197	1,544	22,749
1935	22,884	399	23,283	1,634	24,927
1936	24,933	470	25,402	1,686	27,099
1937	27,176	512	27,688	2,527	30,225
1938	25,691	463	26,154	2,439	28,603
1939	27,837	501	28,338	2,631	30,979
1940	29,537	572	30,109	2,943	33,062
1941	32,629	689	33,318	3,150	36,479
1942	36,583	772	37,355	3,642	41,007
1943	39,660	820	40,480	3,461	43,951
1944	39,553	1,046	40,599	2,962	43,571
1945	39,131	999	40,130	2,564	42,724
1946	40,692	1,045	41,737	2,914	44,663
1947	42,273	1,152	43,425	3,737	47,174
1948	41,070	1,320	42,390	4,862	47,262
1949	42,779	1,639	44,419	6,162	50,593
1950	46,624	1,870	48,494	6,530	55,037
1951	52,955	1,897	54,852	6,582	61,447
1952	57,802	1,607	59,409	6,685	66,094
1953	61,069	1,791	62,861	7,146	70,017
1954	63,932	2,004	65,936	7,539	73,488
1955	69,478	3,433	72,911	8,000 ^c	81,415 ^c

^aCan be assumed to be predominately hydro power.

^bIncludes power generated by electric railways for use in their own operations.

^cPreliminary figure.

SOURCE: John Davis, *Canada's Energy Prospects*, Ottawa, 1957. A study prepared for the Commission.

Table V

FUEL AND POWER—COAL, OIL AND NATURAL GAS PRODUCTION

Year	Coal (short tons—millions)	Domestic crude oil (000 barrels)	Natural gas (millions of cu. ft.)
1926	16.4	364	23,075
1927	17.4	477	29,182
1928	17.6	624	36,721
1929	17.5	1,117	80,744
1930	14.9	1,522	138,007
1931	12.2	1,543	182,067
1932	11.7	1,044	124,119
1933	11.9	1,145	107,166
1934	13.8	1,411	104,076
1935	13.9	1,447	102,635
1936	15.2	1,500	103,979
1937	15.8	2,944	97,194
1938	14.3	6,966	85,267
1939	15.7	7,826	63,401
1940	17.6	8,590	61,653
1941	18.2	10,134	75,060
1942	18.9	10,365	67,716
1943	17.9	10,052	63,816
1944	17.0	10,099	61,170
1945	16.5	8,483	60,310
1946	17.8	7,586	58,382
1947	15.8	7,735	61,979
1948	18.4	12,370	70,673
1949	19.1	21,404	76,371
1950	19.1	29,044	84,797
1951	18.5	47,616	94,964
1952	17.6	61,237	105,364
1953	15.9	80,899	125,626
1954	14.9	96,080	150,398
1955	14.6	129,440	191,119

SOURCE: Davis, *op. cit.*

Table VI

**NON-FERROUS METALS — CANADIAN MINE OR
PRIMARY PRODUCTION**
(*thousands of short tons*)

Year	Aluminum	Copper	Lead	Nickel	Zinc
1926	19.5	65.5	141.9	32.9	75.0
1927	41.4	70.1	155.7	33.4	82.7
1928	41.4	101.3	169.0	48.4	92.3
1929	31.7	124.1	163.3	55.1	98.6
1930	38.1	151.7	166.4	51.9	133.8
1931	34.1	146.2	133.7	32.8	118.6
1932	19.8	123.8	127.9	15.2	86.1
1933	17.8	150.0	133.2	41.6	99.6
1934	17.4	182.4	173.1	64.3	149.3
1935	23.2	209.5	169.6	69.3	160.3
1936	29.6	210.5	191.6	84.9	166.6
1937	49.9	265.0	206.0	112.5	185.2
1938	71.2	285.6	209.5	105.3	190.8
1939	82.8	304.4	194.3	113.1	197.3
1940	109.1	327.8	235.9	122.8	212.0
1941	213.9	321.7	230.1	141.1	256.2
1942	340.6	301.8	256.1	142.6	290.1
1943	495.8	287.6	222.0	144.0	305.4
1944	462.1	273.5	152.3	137.3	275.4
1945	215.7	237.5	173.5	122.6	258.6
1946	193.4	184.0	177.0	96.1	235.3
1947	299.1	225.9	161.7	118.6	207.9
1948	367.1	240.7	167.3	131.7	234.2
1949	369.5	263.5	159.8	128.7	288.3
1950	396.9	264.2	165.7	123.7	313.2
1951	447.1	270.0	158.2	137.9	341.1
1952	499.8	258.0	168.8	140.6	371.8
1953	548.4	253.3	193.7	143.7	401.8
1954	560.9	302.7	218.5	161.3	376.5
1955	584.2	324.6	194.0	174.6	427.0

SOURCE: D.B.S.

Table VII

NON-METALLIC MINERALS — ASBESTOS, GYPSUM AND CEMENT PRODUCTION

Year	Asbestos mine production (000 short tons)	Crude gypsum (000 short tons)	Cement (000 barrels)
1926	279.4	883.7	9,036
1927	274.8	1,063.7	9,924
1928	273.0	1,246.4	11,076
1929	306.1	1,211.7	12,252
1930	242.1	1,071.0	11,796
1931	164.3	863.8	10,200
1932	123.0	438.6	4,644
1933	158.4	382.7	2,412
1934	156.0	461.2	3,480
1935	210.5	541.9	3,492
1936	301.3	833.8	4,944
1937	410.0	1,047.2	6,144
1938	289.8	1,008.8	5,592
1939	364.5	1,421.9	5,724
1940	346.8	1,448.8	6,948
1941	477.8	1,593.4	8,484
1942	439.5	566.2	8,640
1943	467.2	466.8	8,028
1944	419.3	596.2	7,596
1945	466.9	839.8	7,836
1946	558.2	1,810.9	10,680
1947	661.8	2,497.0	12,216
1948	716.8	3,216.8	14,004
1949	574.9	3,014.2	16,056
1950	875.3	3,666.3	16,728
1951	973.2	3,802.7	17,124
1952	929.3	3,590.8	18,408
1953	911.2	3,841.5	22,416
1954	924.1	3,950.4	22,608
1955	1,055.3	4,667.9	25,188

SOURCE: D.B.S.

Table VIII

PRIMARY TEXTILE PRODUCTION
(millions of pounds)

Year	Cotton	Wool	Synthetics	Total ^a
1926	101.0	29.2	2.8	133.5
1927	116.7	29.1	4.4	151.0
1928	118.0	30.4	4.9	154.2
1929	114.5	27.5	5.9	149.2
1930	94.3	25.0	7.4	128.2
1931	87.8	25.0	7.5	122.1
1932	85.9	28.3	7.6	124.0
1933	110.5	35.7	10.3	158.6
1934	122.8	37.8	11.5	174.3
1935	118.4	41.5	14.5	177.0
1936	126.6	45.3	15.2	188.7
1937	141.6	43.6	18.4	205.6
1938	119.6	36.2	16.4	174.3
1939	144.0	43.0	20.8	209.6
1940	198.5	63.4	25.6	289.4
1941	208.0	60.6	32.7	301.9
1942	215.2	65.8	30.7	311.9
1943	187.4	56.5	29.2	273.1
1944	162.8	53.1	38.6	254.5
1945	158.0	56.2	43.2	257.4
1946	162.0	64.2	40.6	266.8
1947	169.2	67.9	50.7	287.9
1948	172.8	69.7	54.8	297.4
1949	173.0	57.0	61.9	292.0
1950	202.1	61.1	76.4	339.7
1951	196.9	53.0	87.8	337.8
1952	147.7	37.4	85.1	270.3
1953	144.2	46.7	88.5	279.5
1954	139.2	33.4	78.7	251.4

^aSilk is included in the totals but is not shown separately.

SOURCE: *The Canadian Primary Textiles Industry*, a study prepared for the Commission by the National Industrial Conference Board (Canadian Office), Ottawa, 1957.

Table IX

SELECTED CHEMICALS AND PRODUCTS
(thousands of short tons)

Year	Sulphuric acid	Mixed fertilizers	Caustic soda	Chlorine
1926	101	47		
1927	92	57		
1928	90	72		
1929	103	76		
1930	100	75		
1931	111	78		
1932	127	114		
1933	138	96		
1934	191	106		
1935	209	139		
1936	225	146		
1937	263	176		
1938	250	244		
1939	233	289		
1940	301	279		
1941	450	303		
1942	552	298		
1943	597	406		
1944	673	508		
1945	664	543		
1946	594	540		
1947	669	598		
1948	679	674		
1949	705	650	111	96
1950	756	661	148	131
1951	821	670	180	155
1952	816	697	190	169
1953	823	649	192	169
1954	823	688	199	167
1955	953	664	224	192

SOURCE: D.B.S.

Appendix B

NEW FIRMS AND BRANCH PLANTS IN CANADIAN MANUFACTURING INDUSTRIES, JANUARY 1, 1946, TO JUNE 30, 1955

THE RAPID economic growth which Canada has experienced since the war has resulted in the establishment of a large number of new industrial enterprises as well as the extension of existing enterprises. Data on the former — confined, however, only to manufacturing units which employed ten or more persons as of June 30, 1955 — have been compiled by the Department of Trade and Commerce and are presented in a series of tables which follows.

These tables are intended to illustrate the relative importance of new plants, in the aggregate, regionally and by industry classifications. In theory, several measures of relative importance are available. For example, there were some 16,000 manufacturing firms in Canada at mid-1955 and as shown in Table I, almost 2,200 of these were new plants established since January, 1946. But this is a very rough comparison which assigns no importance to unit size. Several other measures, notably capitalization, gross or net value of products and employment, better serve this purpose but only for the last of these are data available, and so this yardstick alone has been used.

One or two qualifications to the interpretation of the data must be mentioned. It will be noted that figures for total manufacturing employment are for 1954. Since new plant employment is shown as at June 30, 1955, the two sets of figures are not strictly comparable. Secondly, several of the tables relate the employment in new plants to the net change in employment (in the aggregate and also by industry) between the beginning of 1946 and mid-1954. It will be noted, for example, (Table IV) that employment in the transportation equipment industry rose just over 33,000 between 1946 and 1954, equal to about 33% over the 1946 level, while employment in new postwar transportation equipment plants stood at almost 30,000 as of

June 30, 1955. New plant employment was thus the equivalent of almost 90% of the over-all employment increase in this industry.

It should not be inferred from this, however, that new plants "accounted for" 90% of the postwar expansion of this industry, in so far as the employment change is taken as the measure of growth. There is again the point that the dates are not precisely comparable. Secondly, comparison as of specific dates, whether or not they are comparable, are valid only for the dates used; had other points of time been used, other results would have been obtained. Finally, old firms (in existence prior to 1946) expanded and contracted in the postwar decade. In the example quoted, the net expansion of employment in old firms was evidently about 3,000, equal to only about 3% of 1946 industry employment. But obviously many older firms expanded much more than this.

While these various points qualify the precision and interpretation of the data, the conclusion appears justified that the establishment of new firms has been an important element in our growth and that such firms have played a major role in the creation of new employment opportunities in the manufacturing sectors of our economy.

Table I

NUMBER OF NEW PLANTS AND EMPLOYMENT IN NEW MANUFACTURING PLANTS

(Jan. 1, 1946 - June 30, 1955)

Region	No. of new plants	Employment	Average employment per plant
British Columbia	209	13,896	66
Prairies	204	12,702	62
Ontario	861	74,055	86
Quebec	799	41,239	52
Atlantic provinces	99	6,706	68
Canada	2,172	148,598	69

NOTE: These tables deal only with new manufacturing plants currently employing ten or more people.

Table II

NUMBER OF NEW FIRMS, BRANCH PLANTS AND EMPLOYMENT BY REGIONS

(Jan. 1, 1946 - June 30, 1955)

Region	Number of plants		Number of employees	
	New firms	New branch plants	New firms	New branch plants
British Columbia	176	33	6,445	7,451
Prairies	152	52	6,378	6,324
Ontario	720	141	33,735	40,320
Quebec	724	75	31,544	9,695
Atlantic provinces	68	31	3,843	2,863
Canada	1,840	332	81,945	66,653

Table III

EMPLOYMENT IN MANUFACTURING INDUSTRIES AND NEW PLANTS

(Jan. 1, 1946 - June 30, 1955)

Region	All manufacturing industries	New plants	New plants as a % of total manufacturing
	1954		
British Columbia	96,058	13,896	14.5
Prairies	85,515	12,702	14.9
Ontario	598,914	74,055	12.4
Quebec	424,095	41,239	9.7
Atlantic provinces	63,384	6,706	10.6
Canada	1,267,966	148,598	11.7

Table IV

EMPLOYMENT IN NEW POSTWAR PLANTS AS COMPARED WITH
TOTAL EMPLOYMENT IN MANUFACTURING INDUSTRIES
(1946-54, Canada)

Industry	Total employment 1954	Net change in employment 1946-54	June, 1955, employment in new postwar plants		
			Numbers	% of 1954 employ- ment	% of net change 1946-54
Food, beverages and tobacco	187,352	15,682	10,788	5.8	68.8
Rubber products	20,894	— 1,161	1,470	7.0	a
Leather products	30,748	— 6,542	2,584	8.4	a
Textile products	64,581	— 1,050	6,202	9.6	a
Clothing	111,315	4,211	15,053	13.5	a
Wood products	128,931	20,355	14,360	11.1	70.5
Paper products	87,370	19,928	10,605	12.1	53.2
Printing and publishing	68,614	19,664	1,500	2.2	7.6
Iron and steel products	173,698	22,325	16,034	9.2	71.8
Transportation equipment	133,432	33,269	29,847	22.4	89.7
Non-ferrous metal prod.	50,494	9,493	5,471	10.8	57.6
Electrical apparatus	75,075	31,223	12,105	16.1	38.8
Non-metallic mineral prod.	35,229	10,842	7,875	22.4	72.6
Products of petroleum and coal	17,559	5,453	2,521	14.4	46.2
Chemical products	51,603	13,565	6,852	13.3	50.5
Miscellaneous	31,071	12,553	5,331	17.2	42.5
Totals	1,267,966	209,810	148,598	11.7	70.8

aEmployment in new postwar plants is greater than the net change in employment 1946-54.

Table V

EMPLOYMENT IN NEW POSTWAR PLANTS AS COMPARED WITH
TOTAL EMPLOYMENT IN MANUFACTURING INDUSTRIES, 1946-54

(British Columbia, Yukon and N.W.T.)

Industry	Total employment 1954	Net change in employment 1946-54	June, 1955, employment in new postwar plants		
			Numbers	% of 1954	% of net change
				employ- ment	1946-54
Food, beverages and tobacco	16,449	604	409	2.5	67.7
Rubber products	44	11	—		
Leather products	477	—114	34	7.1	a
Textile products	624	—30	31	5.0	a
Clothing	1,630	464	200	12.3	43.1
Wood products	40,563	15,185	5,287	13.0	34.8
Paper products	8,526	3,168	2,407	28.2	76.0
Printing and publishing	4,983	1,603	68	1.4	4.2
Iron and steel products	7,213	606	1,559	21.6	a
Transportation equipment	4,297	—2,995	139	3.2	a
Non-ferrous metal prod.	4,400	742	1,849	42.0	a
Electrical apparatus	641	380	130	20.3	34.2
Non-metallic mineral prod.	1,482	428	334	22.5	78.0
Products of petroleum and coal	1,383	403	548	25.2	a
Chemical products	2,365	178	768	32.5	a
Miscellaneous	981	—151	133	13.6	a
Total	96,058	20,482	13,896	14.5	67.8

aEmployment in new postwar plants is greater than the net change in employment 1946-54.

Table VI

EMPLOYMENT IN NEW POSTWAR PLANTS AS COMPARED WITH
TOTAL EMPLOYMENT IN MANUFACTURING INDUSTRIES, 1946-54
(total *Prairies*)

Industry	Total employment 1954	Net change in employment 1946-54	June, 1955, employment in new postwar plants		
			Numbers	% of 1954 employ- ment	% of net change 1946-54
Food, beverages and tobacco	25,691	—2,006	2,728	10.6	^a
Rubber products	2	—14	—		^a
Leather products	739	—95	60	8.1	
Textile products	1,276	—227	46	3.6	20.3
Clothing	6,736	1,044	988	14.7	94.6
Wood products	10,699	1,498	991	9.3	66.2
Paper products	1,810	503	526	29.1	^a
Printing and publishing	7,621	1,832	—		
Iron and steel products	8,776	3,243	1,464	16.7	45.1
Transportation equip.	9,367	1,311	859	9.2	65.5
Non-ferrous metal prod.	1,301	254	780	60.0	^a
Electrical apparatus	983	523	530	53.9	^a
Non-metallic mineral prod.	3,812	1,037	977	25.6	94.2
Products of petroleum and coal	3,408	1,804	959	28.1	53.2
Chemical products	2,324	943	1,636	70.4	^a
Miscellaneous	970	438	158	16.3	36.1
Total	85,515	12,542	12,702	14.9	^a

^aEmployment in new postwar plants is greater than the net change in employment 1946-54.

Table VII

EMPLOYMENT IN NEW POSTWAR PLANTS AS COMPARED WITH
TOTAL EMPLOYMENT IN MANUFACTURING INDUSTRIES, 1946-54
(Ontario)

Industry	Total employment 1954	Net change in employment 1946-54	June, 1955, employment in new postwar plants		
			Numbers	% of 1954	% of net
				employ- ment	change 1946-54
Food, beverages and tobacco	73,089	3,354	3,906	5.3	a
Rubber products	14,529	—1,335	707	4.9	a
Leather products	12,557	—2,084	933	7.4	a
Textile products	24,571	—2,529	2,471	10.1	a
Clothing	35,231	—2,845	3,369	9.6	a
Wood products	34,995	3,277	3,023	8.6	92.2
Paper products	33,559	6,307	5,404	16.1	85.7
Printing and publishing	34,609	9,166	487	1.4	5.3
Iron and steel products	110,050	14,082	9,356	8.5	66.4
Transportation equipment	76,646	28,937	25,589	33.4	88.4
Non-ferrous metal prod.	26,001	1,899	1,645	6.3	86.6
Electrical apparatus	52,882	22,560	8,156	15.4	36.2
Non-metallic mineral prod.	18,244	5,643	3,341	18.3	59.2
Products of petroleum and coal	8,075	1,859	246	3.0	13.2
Chemical products	24,725	5,007	2,630	10.6	52.5
Miscellaneous	19,151	7,496	2,792	14.6	37.2
Total	598,914	100,794	74,055	12.4	73.5

^aEmployment in new postwar plants is greater than the net change in employment 1946-54.

Table VIII

EMPLOYMENT IN NEW POSTWAR PLANTS AS COMPARED WITH TOTAL EMPLOYMENT IN MANUFACTURING INDUSTRIES, 1946-54

(Quebec)

Industry	Total employment 1954	Net change in employment 1946-54	June, 1955, employment in new postwar plants		
			Numbers	% of 1954 employ- ment	% of net change 1946-54
Food, beverages and tobacco	52,913	8,905	2,177	4.1	24.4
Rubber products	6,241	99	689	11.0	"
Leather products	16,512	-4,210	1,383	8.4	"
Textile products	37,020	2,633	3,654	9.9	"
Clothing	66,263	6,124	9,864	14.9	"
Wood products	32,660	757	4,258	13.0	"
Paper products	34,268	5,273	1,000	2.9	19.0
Printing and publishing	18,623	6,281	902	4.8	14.4
Iron and steel products	40,053	4,195	3,412	8.5	81.3
Transportation equipment	35,452	5,587	2,397	6.8	42.9
Non-ferrous metal products	18,401	6,674	1,184	6.4	17.7
Electrical apparatus	20,466	7,657	3,078	15.0	40.2
Non-metallic mineral prod.	10,167	2,930	2,437	24.0	83.2
Products of petroleum and coal	3,900	1,631	768	19.7	47.1
Chemical products	21,647	7,521	1,798	8.3	23.9
Miscellaneous	9,509	4,762	2,238	23.5	47.0
Total	424,095	66,819	41,239	9.7	61.7

^aEmployment in new postwar plants is greater than the net change in employment 1946-54.

Table IX

EMPLOYMENT IN NEW POSTWAR PLANTS AS COMPARED WITH
TOTAL EMPLOYMENT IN MANUFACTURING INDUSTRIES, 1946-54*(Atlantic provinces)*

Industry	Total employment 1954	Net change in employment 1946-54	June, 1955, employment in new postwar plants		
			Numbers	% of 1954	% of net employ- ment change 1946-54
Food, beverages and tobacco	19,210	4,825	1,568	8.2	32.5
Rubber products	78	78	74	94.9	94.9
Leather products	463	—39	174	37.6	a
Textile products	1,090	—1,351	—	—	—
Clothing	1,455	—576	632	43.4	a
Wood products	10,014	—362	801	8.0	a
Paper products	9,207	4,677	1,268	13.8	27.1
Printing and publishing	2,778	782	43	1.5	5.5
Iron and steel products	7,606	199	243	3.2	a
Transportation equipment	7,670	429	863	11.3	a
Non-ferrous metal prod.	391	—76	13	3.3	a
Electrical apparatus	103	103	211	204.9	a
Non-metallic mineral prod.	1,524	804	786	51.6	97.8
Products of petroleum and coal	793	—244	—	—	—
Chemical products	542	—84	20	3.7	a
Miscellaneous	460	8	10	2.2	a
Total	63,384	9,173	6,706	10.6	73.1

aEmployment in new postwar plants is greater than the net change in employment 1946-54.

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¹This is one of a series of three studies on Canadian international economic relations prepared under the direction of S. S. Reisman.

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